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ORIGINAL ARTICLES.

THE CLIMATIC TREATMENT OF BRONCHIAL ASTHMA.¹

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If one seeks information on the selection of a suitable climate for an asthmatic patient, he will soon realize that no successful attempt has been made to establish indications for preference of one climate over another for any given case of asthma; that changes of climate have been made usually in an experimental way, and have been as likely to be attended with aggravation as relief to the symptom.

The chief cause of this is the mistake which has been made in trying to reduce all cases of asthma to one class, assuming that the ultimate cause and mode of development of this symptom were the same in all cases. This has led to the origin and promulgation of different theories, which have been in turn supported and abandoned. We find, in looking over the literature of the subject, that at one time asthma has been considered almost exclusively as a bronchial spasm of local origin, and treatment appropriate to this condition recommended; at another time, the theory of hyperæmia of local origin has received much favor; and at still another, the reflex origin (at one time of spasm, and at another of hyperæmia) has been dwelt upon.

This habit of the human mind, of looking at only a part of the truth, was characteristically urged by Dr. Daly in his paper at the last meeting of this Association. This is especially true of the medical mind, and the inevitable result of specialism in practice has been to increase this tendency.

The ease of error of the medical man is greater than that of the blind men in Tolstoi's fable, because, while he may soon learn to interrogate all parts of the animal brought to him for examination, he will also soon be made aware that there is a great variety of animals. The specialist is familiar with one kind of asthma, according to his field of practice. The asthmatics who go to a rhinologist are naturally those who have trouble in the nose; the asthmatics whose symptoms are wholly thoracic consult some one of repute in that field; and this leads to the result that Dr. Bosworth² tells us, that he has

found evidence of intra-nasal disease in every case of eighty asthmatics on his note-books, in sufficient degree to warrant the conclusion that it exercised a powerful causative influence in the production of the asthmatic attacks.

It has also led Dr. Hyde Salter¹ to say that eighty per cent. of cases of asthma in the young date from some acute inflammatory affection of the lungs, and has led Berkart to put the proportion due to this cause as high as ninety per cent.²

The dermatologist would tell us, perhaps, that he had seen asthma almost invariably associated with eczema, and the syphilologist might say that he had never seen a case of asthma without syphilis. The fact is, that asthma is only a symptom, and the factors whose combination produces a paroxysm are not always the same.

I should agree to the combination given by Dr. Bosworth as applying to a large class of cases, including most of the hay-fever cases. This combination was: 1. The neurotic habit. 2. A diseased condition of the nasal mucous membrane. 3. Some peculiar atmospheric condition, which precipitates the paroxysm;—i.e., we have a predisposing, a determining, and an exciting cause. In order, however, to make this applicable to asthma in general, I should consider it necessary to make the second and third conditions more comprehensive. The second might be stated as a morbid condition somewhere in the respiratory tract, it may be in the upper air-passages or in the lungs themselves, whose irritation shows itself by a reflex exhibition in the bronchial tubes. The third condition should be made to include not only peculiar atmospheric states, but also digestive derangement, mental disturbances, and other remote irritations which act by reflex on the bronchial tubes.

It should always be borne in mind also that we may have more than one of the conditions mentioned under the second and third classes operative at once. For instance, we may have nasal disease and some change in the lung structure coöperating in the same patient, and also more than one of the exciting causes operative at the same time. This should lead us to be guarded in prognosis, and not to be too confident of cure because we have detected a single factor which is capable of removal. Who has not

¹ Read before the American Climatological Association, June 25, 1889.

² American Journal of the Medical Sciences, Sept. 1888.

¹ On Asthma; its Pathology and Treatment. New York, 1882, p. 78.

² On Asthma; its Pathology and Treatment. London, 1878.

seen asthma persist after removal of nasal polypi, or after removal of a patient from a pollen-laden air which seemed to be the exciting cause of the attack?

In regard to the coëxistence of different factors for the production of bronchial asthma it may probably be said that only the second and third are absolutely necessary, and that while the first (the neurotic habit) is a pretty constant factor, a paroxysm may be produced without it when the determining cause (second factor) is situated in the lung itself. In considering the effect of climate upon the paroxysm it can readily be seen that its effect upon each of the factors should be studied separately; and, if either factor can be eliminated or seriously modified by climatic change, then the attacks will cease.

It thus becomes more explicable why entirely different climates relieve different cases of asthma, or even the same case at different times. Who has not seen a patient completely relieved by change of climate for a number of years, perhaps, and afterward, the symptoms returning, be again relieved by another move, perhaps even back to the starting-point? Now, in such case it is very likely that the patient, while strengthened in one factor, was gradually weakened in another till the paroxysm was again developed, to be again prevented by variation of influence.

When, therefore, a case of bronchial asthma presents itself to us, and we are called upon to break the "vicious combination," we try to determine which of the essential factors is most easily removed or modified.

The third factor (the exciting cause) is the one which is apt to engage the attention first, and it may be oftentimes easily removed. When the exciting cause is atmospheric, it may be some variation in the proper constitution of the air, or it may be the presence of accidental emanations, as the pollen of plants, the odor of animals, or animal or vegetable products. When the latter condition obtains and is once recognized, the patient may be able to keep himself out of the reach of the excitant, and, as is well known, an army of hay-fever subjects keep themselves well in this way by an annual exodus to exempt districts.

The well-known susceptibility of asthmatics to paroxysms in the country as compared to the city may likewise sometimes depend upon the presence of vegetable or animal emanations in the country air. In other cases it seems to be the atmosphere containing the most carbonic acid which affords the most relief; hence, the old, crowded portions of the city are looked upon by certain asthmatics as the abodes of bliss. This accords with the recent reports of cases of "dyspnoea" relieved by inhalations of carbonic acid gas.

A change in the density of the air sometimes affords marked relief. It is well known that removal

to a high altitude relieves certain cases. These may be such as have for a determining cause some morbid condition of the bronchial area, in which a slight superficial hyperæmia and relative internal anæmia may relieve the paroxysm, and the variation in pressure at different altitudes may be enough to determine this. Instances of digestive derangement and nervous disturbance as exciting causes of asthmatic attacks are too well known to need illustration. I once had a gentleman patient recently married who almost always had an attack on sexual intercourse. I had another patient who could stop an attack by gambling for high stakes.

In regard to the possibility of so modifying the second factor (a morbid condition somewhere in the respiratory tract, which may be called the determining cause) that the combination shall fail, it may be said that this is sometimes easy and sometimes impossible. When the lesion is accessible to operation, as in the nose, this may be easy; when it is below the reach of operative methods, it may be very difficult or impossible. Perhaps the most brilliant results in the latter field are seen in the cures wrought by the potassium iodide. This remedy is especially efficacious in those cases in which there is evidently a catarrhal inflammation of the bronchial mucous membrane. These cases are also quite susceptible to a proper change of climate—*i. e.*, such a change as we have reason to believe would benefit the bronchial or pulmonary lesion. As to the possibility of so modifying the first factor as to prevent the attacks, I should say that while we may sometimes be successful in warding off the paroxysm by fortifying the nervous system with good hygiene and specific tonics, we will be less successful in this mode of attack than in either of the others. So, also, we may occasionally, in cases in which the neurotic factor is a prominent one, succeed in so modifying it by change of residence as to effect a cure in this way.

So it will appear that in climatic, as in medical, treatment we must make our application to the ascertained condition of the patient; as far as it is possible to diagnose this, and not to the name of a disease. There is no climate which is good for all cases of asthma, and we must carefully consider, when a patient presents himself for treatment, the nature of these three factors in his case, and which of them we intend to modify, and how far change of climate may be able to aid us in this.

A CYST OF THE PHARYNGEAL BURSA.

BY JONATHAN WRIGHT, M.D.,
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THE name pharyngeal bursa, first given to a structure often found in the naso-pharynx by Mayer, is, in the light of more recent researches, probably a

misnomer, inasmuch as it implies that an anatomical structure of that description exists in the normal naso-pharynx. As such it was regarded by Mayer, Tourtual, Luschka, and, in recent years, by Tornwaldt.¹ Ganghofner suggested the name *recessus medius* in contradistinction to the *recessus laterales* of the pharyngeal tonsil, as more in keeping with its anatomical character. The former term, however, has become so fixed in the minds of laryngologists and is so in accordance with the form in which it comes under their observation, that it would be useless to attempt a change of name.

Mayer's² description quoted in full by Bloch is as follows:

"This pharyngeal bursa exists as a sac in the mucous membrane, covering the body of the sphenoid bone behind the choanæ, or rather, immediately behind the perpendicular plate of the vomer. Occasionally this sac reaches a size large enough to hold a cherry-stone. I have occasionally found it double or divided in the median line by a septum. . . . Occasionally there is an opening into the sella Turcica or into the body of the sphenoid, but usually this is so small that one might easily take it for the nutrient canal of the bone."

Luschka agreed with Mayer and regarded it as a remainder of foetal life, a remnant of the pharynx, and connected with the hypophysis cerebri. He stated that it was not found in all subjects.

Dursy, Ganghofner, and Schwabach studied the subject from an embryonal standpoint and have pretty conclusively settled its true character. They have explained the manner in which the condition arises, which was stated by the earlier writers and by Tornwaldt and others in later years to be a normal structure. Ganghofner described the so-called "*bursa pharyngea*" as a more or less deep depression or cavity in the mucous membrane of the naso-pharynx, posteriorly in the median line and just anterior to the tuberculum pharyngeum. Its first indication in a three months' embryo is a little fossa about the size of a pin's head, a slight depression in the mucous membrane.

In the newborn the fossa is one or two millimetres deep and at the bottom is occasionally seen a little ridge or fold. In children two or three years old this furrow-like depression has developed into a marked recess between the median folds of the naso-pharynx, and usually has an oval or elliptical opening. He denied its connection in any way with the hypophysis cerebri.

Schwabach says:

"Both in preparations with marked formation of folds as well as in those where it is lacking there can be found

¹ Tornwaldt claims elsewhere (*Deutsch. med. Woch.*, Nos. 23 and 48, 1887) that he left the question of its anatomical character open.

² It is but fair to say that I have had to depend upon the very numerous and extensive reviews of the monographs of Mayer, Tourtual, Luschka, Tornwaldt, Ganghofner, and Dursy, as the originals were inaccessible to me.

in the median line, at the end of the median furrow, occasionally a little depression of about the size of a pin's head, which is usually bounded posteriorly by a thin fold of mucous membrane; but this never has any opening which could be regarded as the mouth of a sacciform diverticulum. In other preparations the median furrow ends, posteriorly, quite flat, without the trace of any depression."

He states further, that probably what Tornwaldt found was nothing but the median furrow of the pharyngeal tonsil, which, in some cases, by the adhesion of the surfaces of the median folds through inflammation, is converted into a canal open at one or both ends. When the mouth of this canal becomes closed we may then have a retention-cyst formed of varying dimensions. It is possible for this to occur in other parts of the pharynx where the folds of the pharyngeal tonsil lie in close apposition. I believe, from clinical observation, that this is the true explanation of this much-debated anatomical point. The frequency of inflammation in the post-nasal space is an ample explanation why such good anatomists and clinical observers regarded its results as a normal condition.

Czermak, the father of laryngoscopy, was the first to see (in September, 1860) in the rhinoscopic mirror the image of a cyst of the post-nasal bursa. He gave a good description of its appearance, but, of course, was ignorant of its true character. Eighteen years before this, Mayer, as we have seen, had described them from post-mortem investigations. Von Troeltsch, in 1859, described a cyst found in the naso-pharynx of a subject who had died from the effects of various aural troubles. Luschka also speaks of having found post-nasal cysts. Zahn, in 1885, described three cases of post-nasal cysts found post-mortem, and gives a full microscopic and macroscopic description of them.

Up to this date these are all the cases I can find mentioned in literature. Tornwaldt then brought forward his work on the pharyngeal bursa which has attracted such wide attention and commendation. He reported having seen in two years 45 cases of cysts of the pharyngeal bursa out of the 202 cases of disease of this bursa. This large number is certainly very surprising, and he attempts to explain it by the suggestion that the attention of special workers in this field had not as yet been called to the affection.

Although many observers in the last four years, since the appearance of Tornwaldt's paper, have written on the inflammations of the pharyngeal bursa, the assertion of Tornwaldt in regard to the frequency of cysts in that situation has not been supported. Walb, who is an enthusiastic admirer of Tornwaldt's paper, and who gives a careful report of forty cases of disease of the bursa, says he has never seen a case of cyst formation, while the proportion of Tornwaldt's observations is one cyst out of five cases of

bursal disease. I have made inquiry of many American laryngologists, and I have not as yet found one who has ever seen a case of true cystic growth in the situation of the post-nasal bursa. I am, of course, very far from believing that further inquiries would fail to elicit a different answer, but it is impossible for me to understand the frequency of cyst formations reported by Tornwaldt, to whom, however, is due the great credit of directing the attention of specialists to diseases of this region. Lehman has lately reported a large congenital cyst. Srebrny and Schaeffer each report one case of bursal cyst. The latter author, as well as Mégevand and Suchannek, with many others to whom it would be superfluous to refer, have made long and, some of them, valuable contributions to the subject.

For the thorough examination of the post-nasal space much patience, skill, and experience in the use of the rhinoscopic mirror are frequently necessary. The finger is the most reliable means of diagnosis in intractable cases. I have faithfully and persistently tried many kinds of palate hooks and palate retractors, and, though I am still open to conviction on the subject, I have about arrived at the conclusion that where you need a palate retractor you cannot use it, and where you can use one you do not need it.

In the case reported below, and which will serve as an excuse for what has gone before in reviewing the subject, the size of the cyst is certainly very rare, however frequent the smaller ones may be. Notwithstanding the amount of post-nasal obstruction in the case, however, the patient suffered remarkably little inconvenience from it. I may, furthermore, remark that this is the only case of the kind I have ever seen, though I have examined, since my attention was called to it two years ago, between two and three thousand cases of nasal or laryngeal troubles.

A. M., æt. seventeen, by occupation a book-keeper, presented himself in May, 1887, at the Demilt Dispensary. His family history was negative. He had bronchitis (?) when small. He has always been more or less subject to sore throat with external "swellings" on the sides of the neck. He has been troubled for some time with excessive expectoration and dropping in the back of the throat. Occasionally his nose is stopped up. He breathes a great deal through his mouth. While annoying, none of his symptoms has ever been distressing. He is a well-nourished boy of fairly healthy appearance. His expression is somewhat vacant, his voice a little husky, and his hearing not acute.

Examination shows large tonsils which are diffused, stretching down to and being continuous with the large glands at the base of the tongue, and with the post-pharyngeal wall, which is thickened and has at times a dry and glazed appearance. The tonsils also extend high up between the pillars of the fauces. On account of this obstruction no posterior rhinoscopic examination can be made. The anterior

nares are comparatively free. The vocal cords are somewhat congested.

By the continued and persistent application of the galvano-cautery to the tonsillar hypertrophies, after many weeks an amount of room was gained which allowed me to see that the pharyngeal vault was much lower than normal, and that the post-pharyngeal wall almost touched the soft palate. On introducing the finger, the pillars of the fauces grasped it with a powerful constricting action which was very marked, but I was able to map out fairly well a large, smooth, globular mass extending from the vault near the septum down on to the post-pharyngeal wall. It was of about the size and shape of a pecan nut, with its long axis from above downward. The walls seemed thin, and there was distinct fluctuation. On very moderate pressure backward with the back of my finger the cyst suddenly gave way with an almost audible snap. A clear, slightly viscid fluid could be seen trickling down the post-pharyngeal wall. The finger could now be inserted into the interior of the cyst cavity, and the walls were felt to be thick at their base, thinning out to the point of rupture.

They were continuous with the pharyngeal mucous membrane, in the layers of which the cyst had evidently developed. No adenoid vegetations could be made out, either with the finger or with the rhinoscopic mirror. By means of post-nasal forceps large portions of the cyst-walls were removed from time to time, but, unfortunately, no microscopic examination was made. By means of galvano-cautery and the cutting forceps the pharynx was gradually cleared out. For a long time there was great thickening of the pillars of the fauces and distinct ridges—median folds (?)—could be seen on the mucous membrane at the former site of the tumor. There was soon a decrease of the secretions which had annoyed the patient, and he was able to breathe freely through his nose. For a long time after the operation, on gargling, the fluid would always pass into his nose. This, however, disappeared as the thickened condition of the faucial pillars abated. The patient was under treatment for nearly nine months, and when last seen, a few months ago, he had a fairly normal pharynx, though the tendency to catarrhal inflammations on exposure to cold was still marked.

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For a more complete bibliography, see the recent and very interesting communication of Dr. Gellé in the *Annales des Mal. de l'Oreille*, etc., No. 5, 1889.

73 RAMSEN ST., BROOKLYN.

NOTE ON INTRA-THORACIC GROWTHS DEVELOPING FROM THE THYROID GLAND.

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It has been shown that portions of thyroïdal tissue may be met with anywhere from the base of the tongue to the heart, and in regions lying between these points the so-called struma tumors may be found, or even in rare instances within the trachea. Thyroïdal growths also occur within the thorax, most commonly sub-sternal in position, and connected directly with the gland. Of these a number have been described (Virchow, *Geschwülste*, Bd. 3). More rarely tumors develop from the deeper portions or aberrant bits of a lateral lobe and extend into the chest, forming large intra-thoracic growths.

A most remarkable case is reported by Dettrich (*Prager med. Wochenschrift*, No. 31, 1887). In a woman, aged sixty, who had suffered for some time with cough and hæmoptysis there was found, filling the greater part of the right side, a cystic tumor the size of a man's head. It was covered by the parietal pleura and naturally caused great compression of the lung. Above, it was connected with the right lateral lobe of the thyroid. The cyst had yellowish-brown contents and contained cholesterin. Kretschy (*Wiener med. Wochenschrift*, 1877) describes a sarcoma of the thyroid, four and three-quarters inches in length, which formed an extensive mediastinal tumor passing to the level of the ninth dorsal vertebrae.

In the following case, No. 702, Post-mortem Records, Montreal General Hospital, there was a tumor similar in situation to Dettrich's, though not so large:

The patient, a woman, had died with symptoms of purulent bronchitis. There was no special emaciation. Occupying the top of the left thoracic cavity, outside the pleura, was a mass the size of a large orange, closely attached to the œsophagus. The arch of the aorta lay on the right side, the left subclavian passed directly over it and the left carotid passed just beside it. There was no special connection with any thoracic organ, though filling completely the top of the left thorax. There was a large bronchocele, the left lobe of which was in contact with the tumor and could not be isolated from it.

On section, it consisted of a series of imperfectly separated cysts containing a yellow-brown fluid in which were plates of cholesterin. The upper part of the tumor was firm and hard; some of the septa had calcified, others had a fibro-cartilaginous consistence.

The relations of this mass, its anatomical character, and the nature of the contents of the cysts, identical with that which is found in so many cases of old bronchocele, leave no question that it had developed from an outlying lobule of the left thyroid.

In connection with the case of Kretschy, above referred to, a somewhat similar instance was reported by me a few years ago (*Montreal General Hospital Reports*, Vol. I., 1880):

A girl, aged sixteen, had been under treatment for what appeared to be ordinary bronchocele. It had grown with great rapidity. There was marked difficulty in breathing and the question of tracheotomy was considered, but, as the dyspnoea became easier, the operation was deferred. Death occurred suddenly. Post-mortem, a tumor was found which involved exclusively the left lobe of the thyroid and formed a large round mass eight inches in circumference; above it extended to the level of the thyro-hyoid ligament, while below it passed down beside the trachea to the bifurcation. From behind, the mass had an elongated, somewhat oval shape; the lower end rested upon the left bronchus. Along this surface it measured one and three-quarters inches in length. At the upper right angle of the mass in front was a small thin remnant of the left lobe capping the tumor, the tissues of the two blending, not separated by a capsule. The right lobe of the thyroid was of normal size and appearance. Histologically the growth consisted of small lymphoid corpuscles.

I reported this case as one of lympho-sarcoma of the deep cervical glands involving the thyroid and simulating goitre, but I have no doubt now that it was a case similar to Kretschy's, in which the growth developed from a thyroïdal lobe with extensions down the trachea.

INSTITUTIONS FOR THE TREATMENT OF PULMONARY CONSUMPTION IN THE UNITED STATES.¹

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PHTHISO-THERAPY has not made any decided advances during the last year, although the use of hot air by means of inhalation and the internal administration of pure vegetable creasote have claimed considerable attention of the profession, and both possess a certain degree of value which entitles them to further investigations and clinical trials. Our knowledge in regard to the mode of contagion, and with it the power to prevent the disease, has largely increased. Thanks to the careful investigations of Dr. George Cornet, of Berlin, we know to-day that

¹ Read before the American Climatological Association, June 25, 1889.

the phthisical patient *per se* is not a source of danger to his surroundings, and that pulmonary consumption is spread broadcast principally by carelessness and ignorance.

The question whether or not consumptives should be treated in institutions conducted for that special object has been discussed both here and abroad, and, while the sanitarium treatment is considered now as giving the best possible chances for recovery from consumption in its early stages, by the profession in Europe, there seems still to exist considerable difference of opinion on that subject among physicians in this country. Dr. George Cornet's experiments will do much to strengthen the case of those who advocate sanitarium treatment for consumptives, and they must necessarily help to overcome such opposition as was expressed recently by my friend, Dr. Samuel A. Fisk, in the president's address read before the Colorado State Medical Society, entitled "The Cottage Plan of Treating Consumption in Colorado." Dr. Fisk does not by any means advise "cottage treatment" such as will be spoken of in this paper, but he declares himself in favor of treating consumptives in open health resorts rather than in institutions established for that purpose.

Dr. Fisk makes a fatal admission to correctness of the views he expresses, by stating and describing a number of cases which occurred in his own practice where great harm was done by over-exercise, and adding that such irreparable injury might have been guarded against in a properly conducted sanitarium. Dr. Fisk, and with him most practitioners who are honest in their opposition to special institutions for the treatment of pulmonary consumption, seems to overlook the fact that overtaxation of heart or lungs is one of the greatest dangers to which consumptives are exposed, and many lives of patients, doing apparently well, are lost by it. It is probably true, as Dr. Fisk states, that the results obtained in Colorado are excellent, but does that prove that sanitarium are not needed there? Would not the excellent results obtained in Colorado be still better if there were fewer cases where lives were sacrificed by mismanagement?—"cases which recur to each of Dr. Fisk's hearers."

The arguments which he uses against sanitarium treatment are by no means new. They are: 1, that patients do not like to be under constant supervision and control; 2, that a cheerful mental condition has a great part to play in effecting a recovery, and that it is inadvisable to congregate invalids where their thoughts are constantly employed in comparing notes with fellow-invalids and where they are subjected to the depressing influence that necessarily surrounds disease; and 3, that a congregation of

phthisical patients render any air, aseptic in itself, very foul and septic. In framing these arguments Dr. Fisk must have been unconsciously influenced by a desire to place the *existing* conditions of his own State in the best possible light.

The first objection raised by Dr. Fisk shows that he does not yet recognize the personal control of consumptive patients—extending, as it should, to the smallest detail of every-day life—as a *conditio sine qua non* for giving them the greatest chances for a cure, though his own cases, which suffered so much by overexercise, etc., should have taught him the lesson.

The second and third objections might be used with just as much force against any *open health resort* where a large number of consumptives live in search of health—as in Denver, Colorado Springs, Georgetown, Aiken, Davos, Mentone, etc.; as a matter of fact, the third objection might very properly be used in favor of sanitarium treatment over open health resorts, where the patients live in badly arranged hotels or boarding houses, and where little or nothing is done to prevent the possibility of having the air loaded with tubercular bacilli, due to the carelessness of patients or their attendants. In a letter to the writer, dated May 12, 1889, Dr. E. L. Trudeau, of Saranac Lake, discussing Dr. Fisk's paper, describes the means employed at the Adirondack Cottage Sanitarium to prevent expectorations from becoming a source of danger to the inmates, and says:

"The proof that with these restrictions no injury results to the patient, lies in the fact that my results are *better at the sanitarium than at the hotels*, and Dr. Fisk's argument, though plausible theoretically, falls to the ground when the most practical test—that of actual results—is applied."

In regard to another argument used by Dr. Fisk, Dr. Trudeau says:

"His other objection—namely, that much depression of spirits must result from seeing so many others suffering from the same disease, is not, in my experience, supported by facts. I find that my patients at the sanitarium suffer from depression no oftener than those I have in private practice. The former seem to recognize the fact that they are 'all in the same boat,' that a disinterested effort is being made to save them by persons who have extensive experience in the matter, and, as a rule, they aid the physician cheerfully in his task. During the last five years only three patients left the sanitarium on account of home-sickness."

Dr. Trudeau makes this strong statement: "*If anything is to be done for those who are both poor and consumptive, it cannot be done outside of an institution*," and, after a very careful study of this subject, I have arrived at convictions which induce me to say, even stronger than Dr. Trudeau, *If anything is to be done tending to restoration to health for those who are consumptive, whether rich or poor, it can be*

¹ THE MEDICAL NEWS, May 4, 1889, p. 480.

accomplished with the greatest promise of success in a properly located and rationally conducted institution.

To bring about the best results, such institutions should be erected in regions whose climatic influences are known to be favorable to consumptives, places where consumption is known to be rare among the natives, in a moderately high altitude, not close to large cities, in the neighborhood of evergreen forests; they must be located so as to be protected from severe wind-storms; they should have enough cultivated path immediately around them to make exercise possible during all seasons of the year; sunshine and shade should be in proper proportion; the drainage must be perfect, and the water of the purest. The cottage or pavilion system seems to be best adapted to answer all the requirements; all buildings must be erected with their special object in view. The management of such institutions should be intrusted only to physicians of ability, large experience, and great love for their special work.

One feature which is more difficult to overcome than others is the tendency of patients to leave the institution long before they have secured all the benefits the sanitarium can give them. Patients should never think of staying less than seven or eight months, and they should know that six or eight weeks' residence at the very best of institutions will be of no permanent benefit whatsoever. Changing places on account of the season is not advisable as a rule.

Sanitaria for the cure of consumption have existed for many years in Germany, where Dr. Herman Brehmer started his now celebrated place in Goerbersdorf thirty-five years ago, and where successful institutions are now in operation in Falkenstein in the Taunus, at St. Blasien in the Black Forest, at Reiboltsgrün in Saxony, at Rehburg in Westphalia, in St. Andreasberg, and in Blankenbain in the Harz mountains. In this country Dr. J. H. Tyndale made an effort about ten years ago in Manitou, Colorado, and Dr. H. Gleitsmann before him, in Asheville, N. C., to establish similar institutions, but both failed from lack of professional support.

The interesting paper read by Dr. Alfred L. Loomis before the Medical Society of the State of New York, in 1879, on "The Adirondack Region as a Therapeutical Agent in the Treatment of Pulmonary Phthisis," and the very favorable results obtained personally by Dr. E. L. Trudeau, during a residence for over ten years in that portion of the Empire State, induced a number of benevolent ladies and gentlemen, under the lead and guide of Dr. Trudeau, to make an effort for the establishment there of an institution for the treatment of phthisical patients of limited means, and, in 1884, a moderately sized main building, two cottages (each of which accommodates two patients), and a stable

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were erected, and given the name "The Adirondack Cottage Sanitarium." Thanks to the philanthropy and the unselfish work of Dr. E. L. Trudeau, and to the kind support given to him by Dr. Alfred L. Loomis and others, this establishment has grown from year to year, and consists to-day of an enlarged main building—two wings having been added to the original—and eight fully equipped cottages, with three more almost completed, thereby offering facilities for over fifty patients. The feature which distinguishes this from other institutions of the same kind is the fact that the patients are not crowded together in one or two palatial houses, but that they live almost in the open air, in small cottages scattered over quite an area. These cottages are but one story high, elevated from the ground enough to prevent them from becoming damp, with a veranda in front and partly around each; they are supplied with running water, and with open fire-places. The smaller cottages are planned for two patients, the larger ones for four; the latest of these buildings all have a general sitting-room and a separate one for each patient. The partitions between the bedrooms are of mason work, and reach to the ceiling, while those dividing the sitting from the sleeping department are only seven feet high, thus allowing free circulation of air throughout the whole building.

The location of the Sanitarium is a very pleasant one, about 1750 feet above tide-water, covering an area of over eight acres, about one mile from Saranac Lake and seven miles from Paul Smith's; it is situated on a bluff commanding a grand mountain view toward the north and east, well protected from the prevailing eastern winds. The Chateaugay Railroad, running from Plattsburgh to Saranac Lake, a distance of seventy-three miles, was opened about one year ago and has removed one of the very few objectionable features of the Adirondack Cottage Sanitarium, its inaccessibility. Saranac Lake can now be reached from New York *via* N. Y. Central Railroad, almost without change of cars, within seventeen hours, or the trip may be made by Troy steamers which leave New York at 6 P.M. and reach Troy early in the morning, enabling one to be at the Sanitarium about 5 P.M.

The drainage is simple and efficient. The earth closet system is wholly in use and the material is removed to a distance at frequent and regular intervals. All the water is derived from a spring half a mile distant and is brought through iron pipes to the Sanitarium, reaching the second floor of the main building by gravitation only. All the meals are taken together in the airy drawing-room in the main building; a large supply of pure milk is derived from the cows belonging to the institution, and patients are allowed to drink it *ad libitum* whenever they desire to do so, whether at meals or between them.

Three meals are served daily and the usual bill of fare is about as follows: Breakfast, at 7.30 A.M., consisting of oatmeal or hominy and milk, beef-steak, chops or bacon, potatoes, bread and butter, coffee or milk. Dinner, at 1 P.M., soup, fish or fowl, or roast meat, two vegetables, pudding or fruit in season, milk *ad libitum*. Supper, 6.30 P.M., broiled meat or fish, or hashed meat, eggs, bread and butter, porridge, milk, fruit when obtainable. Alcoholic stimulants are very little used, and, contrary to the very pronounced view of all German observers, not at all in febrile cases. When the circulation is not readily excited and where no marked flushing follows their exhibition, they are moderately prescribed, usually in the form of whiskey or beer at meals. Patients are never allowed to use stimulants at their own discretion.

The climate of Saranac Lake does not differ materially from that of other parts of the Adirondack wilderness, except that the temperature during the cold season is remarkably low and steady, almost all changes from December to April being below the freezing-point. Much snow falls, and windless, cold, snowy days are a marked feature of the climate. January of this year was considered especially warm, the highest temperature recorded was 39° above and the lowest was 12 degrees below zero. The rainfall is a little above the average for New York State, amounting to about 55 inches.

The prevailing winds are westerly and southerly, and very windy days are the exception. The lower the mercury falls the less wind there is usually and the dryer the air becomes, so that exceedingly low temperature, such as 20 degrees below zero, is well borne by the patients. There is a dry period during the summer when little rain falls and the days become hot, while almost without an exception the nights are decidedly cool, and even during the hottest season there are but few nights when a blanket is not needed.

With the closest attention to hygienic matters, the main reliance in combating the disease is placed on the climatic influences and the life in the open air, this part of the treatment being carried out most thoroughly. Patients are encouraged to live out of doors and are gradually accustomed to inclemency of weather until they go out without regard to bad weather. Winter and summer they often sit—in winter thoroughly wrapped up—from six to eight hours in the open air. As the fever diminishes they are allowed to exercise, but not until then, and always moderately.

The drug treatment is considered as secondary, but is used to meet indications. Dr. Trudeau writes:

"Antifebrin is more used than any other drug, and is considered a valuable help in the restoration of the patient by increasing the capacity for taking food and diminishing the waste by its marked influence on

the fever. It is often prescribed for months in 5-grain doses, usually taken at 11 A.M. and 5 P.M. Distinct improvement, more or less permanent, has seemed to follow the use of this drug in about forty per cent. of the cases treated. Next to antifebrin, creasote is perhaps more in use here than any other medicine; unlike antifebrin, it does not agree with almost all consumptives, and its use is restricted by the tolerance of the patient's stomach; when, however, it can be taken in large doses, four or five drops three times daily, a great improvement, not only in the subjective, but in the physical signs as well, has seemed to follow its exhibition in about fifteen per cent. of cases. If it disagrees with the stomach it is never given, even in small doses. Arsenic, cod-liver oil, and digitalis are also prescribed when indicated. The pneumatic cabinet is in daily use at the Sanitarium. Its use is resorted to mostly as a means of expanding the lungs and favorably influencing circulation and digestion in febrile cases in which malnutrition and debility are prominent features, and not as an appliance for the antiseptic treatment of pulmonary consumption."

The actual results obtained at the Adirondack Cottage Sanitarium are of very gratifying character, and compare favorably with those reported by others. A decided and important effect of treatment and climate is observed in the weight of most of the patients; the average gain for six months' stay at the institution is from nine to thirteen pounds. Perhaps the most remarkable effect has been observed in regard to one of the most frequent and dangerous complications of pulmonary consumption—hæmoptysis. Among eighty-three patients treated at the Sanitarium during the last year not a single hemorrhage occurred, and only four cases have been recorded since the institution began to receive patients four years ago.

Up to the end of 1888, 146 consumptive patients have been treated, and the results have been about as follows: Deaths 4, or not quite 3 per cent.; failed steadily 25, about 17 per cent.; stationary or slightly benefited 38, about 26 per cent.; disease arrested 63, or 43 per cent.; and cured 16, or 11 per cent.

Dr. Trudeau writes about these statistics:

"These figures are not, perhaps, thoroughly accurate, but they express on the whole the results, the classification adopted being necessarily a somewhat arbitrary one. Under the heading of cured cases come those in whom both the rational and physical signs of pulmonary phthisis have entirely disappeared; under that of arrested, those cases are put in whom the rational signs of phthisis have been steadily absent for several months with a return to normal strength, the physical signs, though abnormal, being interpreted by the observer as indicative of arrest in activity of morbid processes. This classification is made necessary by the fact that when most patients reach this stage the necessity of earning a livelihood compels them to return to their former occupations. No doubt a fair proportion of these would have ultimately come under the head of 'cured' had they been able to persist in the treatment."

The results of the last year are especially gratifying; of eighty-three patients, two, or 2½ per cent., have died; ten, or 12 per cent., continued to lose ground

and returned to their homes; eight, or 10 per cent., have improved; sixteen, or 20 per cent., have been so restored as to be able to resume again their various occupations, and twelve, or 14½ per cent., have been cured. The success in curing over 14 per cent. of consumptives is remarkable, and speaks highly for sanitarium treatment in general and more especially for that adopted at the Adirondack Cottage Sanitarium. Not to depend upon the patient's memory regarding important instructions, the following short, plain, and decided rules are placed in the hands of every inmate:

Out-of-door Life.—Patients gradually accustom themselves to leading an out-door life, that is, to remaining eight to ten hours in the open air each day. This should be done gradually, and at first the clothing should be heavy and the exposures to cold or inclement weather moderate in duration. Little by little the open-air sittings and walks are to be increased until the entire day is spent out of doors in all kinds of weather. In stormy weather the sheltered side of the verandas should be used for walking or sitting. When feverish, patients are urged to go out and remain sitting on the verandas well wrapped in suitable clothing.

Exercise.—Violent exercise is injurious. When feverish, patients will do well to make as little exertion as possible. *Fatigue*, when induced in persons still having active disease, is sure to be followed by loss of appetite, fever, exhaustion, and even sweating. Severe exercise in hot weather is injurious and may be dangerous. Patients will be informed by the physician how much exercise their case requires.

Food.—If unable to eat at the regular meal hours, patients will do well to drink milk every four hours.

Expectoration.—Patients are required ALWAYS to use the large spittoons in the public rooms and on the verandas, and the pasteboard ones in cottages; the latter should be burned every day in the stoves or fire-places. *Expectorating in handkerchiefs or on the floors, or even on the grounds in the immediate vicinity of the buildings, is strictly prohibited.*

It has been found that while moist sputum is harmless, when it becomes dried it will rise as dust, and may be inhaled. The above directions are given to guard against this result. Patients, for their own welfare and in order to assist in their rapid recovery, *will strictly observe these rules*, and will be liable to dismissal for wilful disobedience in this matter, which involves not only their own welfare but that of others.

Stimulants.—Stimulants are not allowed except under medical advice. No smoking is allowed at any time in the public rooms or on the piazzas. Patients are requested not to smoke at all unless permission is given by the physician.

The actual results obtained at the Saranac Lake Sanitarium place it in the front rank of institutions of similar character, but it stands before the world as unique, worthy of the highest praise, regarding its monetary affairs. Without endowment of any kind, depending simply upon the voluntary contributions of those interested in its work, strengthened and supported by the untiring labor of love of Dr. E. L. Trudeau and his associate, Dr. C. T. Wicker, of Saranac Lake, the Sanitarium is a charitable institution of the highest and noblest type. The patients are by no means paupers, but the price for board

and medical attendance is fixed at such a low figure, five dollars per week, that people of moderate means are thereby given a chance to enjoy the great benefits of this remarkable institution. The promoters and supporters of the Adirondack Cottage Sanitarium deserve the thanks not only of those who have directly been benefited by a stay there, but of everybody who can appreciate the excellent service done by it to suffering fellow-beings.

The board of trustees, consisting of Dr. Alfred L. Loomis, Dr. E. L. Trudeau, Mr. Charles M. Lea, and Mr. Daniel W. Riddle, have charge of the finances of the institution, and their different annual reports show that from 1884 to February, 1889, they have received

From voluntary contributions	\$29,565 50
From patients, for board	18,515 28
Total	\$48,080 78
Of this sum they have spent for land, buildings, and other per- manent investments	\$20,674 42
For board of patients and other running expenses	25,033 24
	45,707 66
And have a cash balance on hand of	\$2,373 12

The failure of Dr. Gleitsmann in his efforts to establish a sanitarium in Asheville, N. C., did not prevent Dr. Carl von Ruck from making another trial in the same direction, and it is now a little less than one year since Dr. von Ruck, who had conducted until then a small private hospital for throat and lung diseases in Norwalk, Ohio, successfully, transferred his institution in an enlarged form to Asheville, N. C. The climate there has been the subject of frequent discussions and it is generally agreed that it is almost an ideal one for phthisical patients. Notwithstanding the fact that large numbers of consumptives sojourn thither in search of health, the death-rate from that disease is a remarkably low one: only one native died last year of pulmonary consumption, a negro who came originally from South Carolina, while ten phthisical patients (visitors) died during the same period.

The Asheville institution is known as the Winyah Sanitarium and receives consumptives only. It is located outside of the city proper at the upper end of the natural water-shed of the city, and the inmates escape one of the few objectionable features of Asheville—the dust arising from the unpaved streets during the hot months. The building was originally intended for a hotel; it is furnished with steam heat, hot and cold water in all rooms, ventilating shafts, bath-rooms; it has a wide and high veranda, two hundred and fifty feet long, with west, south, and eastern exposure, and with the newly cultivated park immediately surrounding is well adapted to its purposes. The walks leading up the mountain

are graded in such a way as to make the ascent easy, even for weak patients, the rise being one foot in twenty-five, with plenty of seats scattered all over the place. Pine forests are in the near neighborhood and are daily visited by patients; oak covers some of the surrounding mountains; the soil is clay and sand, free from all marshes and standing waters.

Dr. Dettweiler's system of *resting* in the open air for as many hours as possible, in all kinds of weather, is carried out thoroughly by Dr. von Ruck; easy reclining chairs are provided, together with blankets for the cool season, and many patients are kept lying on the veranda the largest part of the day, until they show sufficient signs of improvement to warrant actual exercise in the open air. The same care which is exercised in the Adirondack Sanitarium regarding the expectorations of phthisical patients is used in Dr. von Ruck's institution, and it is said that the patients are so thoroughly informed of the danger to which they expose themselves and others by carelessly expectorating upon the floor or the sand covering the paths that there is a complete coöperation on the part of every individual. Of course, spittoons are provided in large numbers, but the patients are further supplied with Chinese paper handkerchiefs to be used instead of ordinary ones, and to be burned after being used once or twice. The spittoons are filled with antiseptic solutions and they are emptied and *thoroughly cleaned* at frequent and regular intervals. Patients are reminded never to swallow sputa.

The general nutrition of the patient is carefully attended to, milk is furnished *ad libitum* and can be had at any time; if koumyss is preferred, the latter is given in place of milk. The diet is the same as any first-class hotel would furnish, except that instead of pies good puddings are given and fried dishes are, as a rule, avoided. Especial attention is given to the condition of the digestive apparatus and gastro-intestinal derangements are considered the obstacles which *must* be removed before any progress can be made in the patient's condition. Dr. von Ruck agrees with the writer as to the vital importance of the strictest supervision of each and every patient, and no general plan of treating patients is adhered to; each case receives careful attention and the treatment as indicated by existing conditions. In general it may be said that Dr. von Ruck takes a position midway between Dr. Trudeau and Dr. Dettweiler regarding the use of stimulants; malt liquors are not at all used in the Sanitarium, but whiskey or brandy of known quality is prescribed in febrile cases. Light wines are allowed at meals, but the habitual use of stimulants is not encouraged. The daily administration of from ten to fifteen gallons of oxygen is resorted to in many in-

stances and has proven to be of value in aiding digestion and developing some appetite in cases where all other means had failed. The pneumatic cabinet is used and considered of special value in phthisical cases where the disease is arrested, or nearly so, where the power of the respiratory muscles is to be augmented to increase expansion and capacity. It is claimed that good results have been obtained by antiseptic inhalations. The use of creosote has been abandoned and Dr. von Ruck states that after many careful and painstaking trials he has never been able to satisfy himself of any favorable influence upon the disease.

From October, 1888, to the end of May, 1889, fifty-one patients have been treated in the Sanitarium, and the results obtained are such as to satisfy the expectations of the most enthusiastic advocate of sanitarium treatment as the best means of curing consumptives.

During the month of December, 1888, Dr. H. M. Wilson, Jr., of Baltimore, undertook to establish a mountain sanitarium for phthisical patients in Tannersville, Catskill, but his efforts were not crowned with success and after a few months of existence the establishment was closed again.

In Colorado two sanatoria are in progress of erection, one at lake Palmer, to be built and conducted by a stock company of which Dr. Charles Dennison, of Denver, is the vice-president, and the other one in Colorado Springs, under the management of Dr. S. E. Solly, of that city.

An enterprise somewhat different from other existing sanatoria has been suggested and strongly advocated by Dr. J. H. Sloan, of Santa Fé, New Mexico. "A course of treatment by which the cure of phthisis pulmonalis is made not a probability but a certainty, in a majority of cases—in fact, in all cases where the disease is not too far advanced." Dr. Sloan, having observed the great benefit which some of his consumptive patients have derived from camping in the mountains near Santa Fé, has determined to adopt out-door camp life under the supervision of a painstaking physician as "a positive cure for consumption." He claims that it is essential to spend at least eighteen months in the neighborhood of New Mexico, and he proposes to have his patients spend fourteen of them in tent life in the mountains in hunting, fishing, etc. The other four months, which are the intervening months of winter and early spring, are to be spent at the St. Vincent Sanitarium, in Santa Fé, when the patient will be surrounded by every comfort. Dr. Sloan has addressed a number of prominent physicians in the East and has laid his plans before them. The principal objection to this proposition is the expense entailed.

¹ Letter by Dr. Sloan of November 10, 1888.

SIMPLE TESTS OF THE OCULAR MUSCLES.¹

BY B. ALEX. RANDALL, A.M., M.D.,

OPHTHALMIC AND AURAL SURGEON TO THE EPISCOPAL AND CHILDREN'S HOSPITALS, PHILADELPHIA.

SINCE the time when Donders and other pioneers first gave us a full picture of the matters of refraction, accommodation, and convergence, the questions as to muscular insufficiencies have occupied a considerable share of attention. Seizing these subjects with his usual vigor, v. Graefe handled them in a manner which has made them in great measure his own; and later discussion has shown that in many respects we can hardly do better than to return to him for solid teaching on this very important matter. Partial tenotomy, and other forms of "graduated tenotomy," rediscovered in this later day, were thoroughly tested by him; and the rules of procedure which he left us were the results of thorough winnowing of the useless from the valuable.

He gave us three practical tests, intended more especially for the study of insufficiencies of the interni, but two of them well calculated to serve in other cases. The first of these was as to the ability of the patient to fix with both eyes an object such as the finger-tip, as it was approached in the middle line to within a few inches of the eyes—a test that is often of value in determining which of the interni is the weaker—but a confessedly rough test, which, even with Landolt's "ophthalmodynamometer," rarely fails to show 16–20 metre angles of converging power in even very weak muscles.

The second test consists in causing the patient to fix upon an object held in the middle line a little below the horizontal at a convenient near point and watching for any wandering of one eye, in front of which a card is held. Modify his procedure by substituting a *fine* fixation object, such as a pen-point, for the "moderate-sized" penholder which he suggested, and we have an admirable test—ready, simple, and accurate. The *rationale* of this and of the third test, more generally called by v. Graefe's name, is clearly set forth in his paper; but his tests as there given are rather crude for the certain attainment of the end in view. We are to make trial of the *balance* which subsists between accommodation and convergence—"ein Gleichgewichtsversuch"—and the prime essential to any constant result is that the fixation-object shall be such as to hold the accommodation fixed and unvarying. It is a delicately formed forefinger which needs any accurate accommodation to see it with fair clearness; yet how often we see the test applied in this way! It is small wonder that we hear little as to the value of results thus gained. But try the test in the other form—

use a fine pen-point as the fixation-object, insist that the patient fix it so as to see the tip sharply, and make quick movements of the covering card from one eye to the other, and you will obtain results of great practical value and reliability. I do not remember that I have ever discovered by any other test a muscular insufficiency which this test had failed to reveal. Further, it is a test which is *quantitative* as well as *qualitative*; and in hundreds of cases the *degree* of insufficiency thus estimated and recorded has proven at most only 1° away from the result as measured by prisms. Roughly speaking, each millimetre of movement of the deviating eye corresponds to 2° of insufficiency as measured by the prisms; but so far as the interni are concerned, each jerk with which the fixation is accomplished is to be multiplied into the foregoing result. Thus, if the covered eye move in some 3 mms. to fix, but do so with three distinct impulses, our estimate of the degree of deviation would be, not 6°, but 18°. Of course, no such rough rule-of-thumb will enable every one at the first trial accurately to estimate degrees of deviation; but a very moderate amount of practice in the comparative use of this and other tests will prove to any one that it is as accurate as it is easy.

No one who has had any experience in testing muscular insufficiencies will need to be told that he must repeat his tests several times and average his results—the first few trials may show a relation of accommodation and convergence that is wholly fictitious and unnatural. Neither this nor any other test will give at all times equal or infallible results; but I ask for the method—always easy of application, without any spirit-levels or other paraphernalia—a reasonable and conscientious trial at your hands; and do not believe that you will often fail to discover and approximately measure even minute deviations, whether vertical or lateral. To the possible objection that long practice has made me especially expert in correctly estimating, I may reply that I was as accurate as now, when, after a year's practice, I demonstrated the method in v. Arlt's clinic in 1883. On the other hand, some one may object that this is all "as old as the hills," and utilized by every one. It ought to be; but I distinctly doubt if it is. I have never found any one who had habitually employed it.

Let us pass now to the third test of v. Graefe—that with vertical diplopia and prisms. It is, perhaps, in fashion to scoff at this test—never, surely, among those who know how to use it. It furnishes us with just what we want to know—the *habitual* relation between accommodation and convergence. Of course, this relation is not a fixed one; within the limits of the region of relative accommodation and convergence it may by effort be greatly altered; but the habit for each individual is fairly fixed, as we

¹ Read before the American Ophthalmological Society, July 17, 1889.

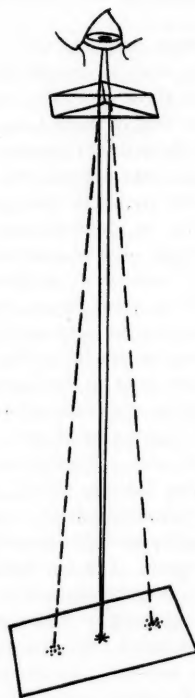
often realize to our cost, if we try to secure abruptly too marked a change in ordering spherical glasses.

Let the underlying principles be clearly realized in practice, and the test will give results that can be relied upon. First, the fixation-object must be such as to hold the accommodation fixed—it must not, therefore, be a huge dot and line that could be seen many yards away, but a fine object, such as an asterisk, or a few letters of Jaeger No. 1, or still finer type. Second, the vertical diplopia must be absolute—no long vertical must be afforded which may be common to both images. In this matter too many have followed v. Graefe's original paper, where this was not fully realized, and too large a test object was there given—to be grossly exaggerated by some of his followers. I have seen titanic "dot and line" figures that occupied the greater part of an octavo page. No eye with a self-respecting accommodation could focus for such an object.

Given a suitable fixation-object and a vertically placed prism (one of 6° or 8° is quite strong enough) and there will be found few cases of lacking balance which will not reveal themselves to this test. In the measurement in degrees of the discovered deviation the revolving prisms of Crêtes will prove a great saver of time and trouble. Using this and a fixation-object which allows of no overlapping of the images, we will rarely be troubled by any question of "latent insufficiency." Perhaps I am confessing to great incapacity as an observer when I state that I have never seen a case of what Dr. E. G. Loring described as latent insufficiency, and of which Dr. H. D. Noyes spoke last year in the Washington meeting. I have met suggestions of it, which promptly yielded to more careful testing. There may be no question as to the possibility of its occurrence, so long as a patient has any region of relative accommodation and convergence; but, as a clinical fact, I have found it in no single case among hundreds carefully tested as to the muscular condition.

A device of extreme utility in using this vertical diplopia test for far or near was suggested some three years ago by E. E. Maddox (*Journal of Anatomy and Physiology*, xxi.), and it has been a surprise to me that so few seem to have noticed it in his abstract in the *Ophthalmic Review* for December, 1886. I have used it with the greatest satisfaction since seeing his paper. It consists of an obtuse-angled prism—or, as it may be otherwise stated—of a double prism base to base. It is held with the junction line of its two inclined surfaces bisecting the pupil, and gives, of course, two false images equidistant from the true position of the object.¹ In practical testing for distance the observer can cover one eye with the

hand which holds the red glass, while he brings the prism into position with the other. A double point of light near the pole of the cornea tells when this is accomplished, and the patient can at once see two lights, and tell whether they stand in a vertical line. The red glass is then brought in front of the other eye, and a third light is seen tinged red. If midway between the two white lights, and in the same vertical line, every form of heterophoria is excluded at a single blow. On the other hand, the slightest vertical or lateral deviation is at once manifest; the red image may approach or blend with one of the white ones, or may wander to the side. If the strength of the prism is such as to give 1.5° of actual deviation in each direction—say 3° of angle in the older notation—no normal muscles are able to blend the real image with one of those vertically displaced; at 6 m. the apparent displacement is



about 15 cm. above and below the actual level. Only an eye with weakness of inferior or superior recti will see the red image at any notable distance from the proper level, and the deviation may be at once measured with the prisms as usual. Of course, it is well to check the results by changing the double prism to the other eye. The test is as readily applied near by, the fixation-object being an asterisk, or something of the sort, instead of a point of light. The prism is small, and may be conveniently carried

¹ Is not this an easy way of obtaining the double images in ophthalmometers like that of Javal and Schiötz? I have not yet put into execution my intention of testing it.

in the pocketbook, as mine has been for years, always ready for tests at the bedside, as well as elsewhere.

One point, as to the results of my testing, I would like to put upon record here; it has been previously set forth, but not with sufficient clearness: insufficiency of convergence for the near is met in a very large proportion of the eyes tested. Among 81 medical students it was noted (in degrees varying from 2° – 12°) in 42 cases, or 52 per cent. Among the last 200 patients on my private case-book (excluding strabismus and presbyopia), there were 154 cases of insufficiency of convergence, 61 of no deviation, 21 of excessive convergence, and 4 of vertical deviation. All of those with inward tendency of the axes were hypermetropes, as were also most of those with deficient convergence.

The tests of the power of the muscles to overcome prisms for distance have not been often of practical value in my hands. Abduction in nineteen cases out of twenty has been from 6° – 8° , adduction almost anything which the patient persistence of the examiner choose to make it. I find that most intelligent patients can overcome from 16° – 60° abducent prisms, and those who have by the balance-test an unmistakable lack of convergence are sometimes the best at adduction experiments. For myself, with 3° of outward deviation for distance and 8° at 25 cm., the abduction is 7° and the adduction from 50° – 70° ; and this not strictly as the result of practice, although I have always been able to converge my eyes enormously at will, for when first tested by Dr. Risley, ten years ago, the results were almost identical. My refraction is low H., and my accommodation normal.

The point on which I wish to lay stress is, that insufficiency of convergence for the near is the rule among hypermetropes. The reason seems not far to seek. The hypermetrope can avoid excessive convergence only by utilizing and developing the negative part of his range of relative convergence; and, like many of nature's compensations, the correction is overdone. Excessive convergence gives place to deficient convergence. Of course, I am speaking of uncorrected hypermetropia; the convex correcting glasses will give relative divergence in all but the actual squint cases, but these are the cases where the demand for excessive accommodation is still present.

As for the other side of the scale—the inward tendency of the visual axes—I have met hardly a case which could be considered one of insufficiency of the externi. A few cases of actual paresis and a number of the concomitant converging strabismus of hypermetropes, are the only apparent instances of the condition which have presented themselves.

HOSPITAL NOTES.

JEFFERSON COLLEGE HOSPITAL.

CLINIC OF J. M. DA COSTA, M.D.

PHLEBITIS FOLLOWING TYPHOID FEVER—THREE CASES.

(Reported by E. P. HERSHEY, M.D., Clinical Assistant.)

CASE I.—October 18. P. H., æt . twenty, laborer. Had typhoid fever ten weeks ago, lasting five weeks. During the third week of the fever, the left thigh began to swell and became very painful. In two weeks the swelling reached the knee, leg, and ankle of the same side. The leg is still swollen, though the swelling in the thigh has disappeared. When he first walked he experienced pain in the left thigh which has since disappeared. Heart very much overacting; a soft murmur may be heard at the base. The pulse is quick and compressible. There is no enlargement of the saphena. No pain in the calf of the leg on pressure. Urine amber, acid; sp. gr. 1020. No albumin; no sugar.

CASE II.—C. S., æt . twenty-three, mechanic. Last July had typhoid fever; during the third week the left thigh began to swell; pain was felt along the saphenous vein. The thigh and leg are still swollen to a considerable extent—the whole leg from the crest of the ilium down to the foot. The internal saphenous vein is felt as a tense cord. Around the calf the tissues are brawny and hard, but there is no tenderness; it was tender, however, until three weeks ago. The veins can be felt, though they are not perceptible to the eye. Heart fairly well acting; there is a distinct second sound. There is no murmur at either base. The tongue is slightly coated. The appetite and digestion are good. There is no pain in the leg unless he walks a good distance, and then it begins to swell up more. Urine amber; acid, sp. gr. 1020. No albumin; no sugar.

CASE III.—A. K., æt . twenty-nine, blacksmith. Had typhoid fever two months ago. During the third week of the fever, the left thigh began to swell, with but little pain. The swelling is marked when he walks any distance. On pressing deeply the saphenous vein may be felt swollen and tense, and is tender. The tissues about the calf are brawny. The veins are not visible. There is a large quantity of albumin in the urine, which has a sp. gr. of 1012, amber in color and acid in reaction.

REMARKS.—These cases all represent the rule of the affection not coming on early in the fever. Even the third week is early; as a rule, they do not appear until convalescence. Here we have three cases where the appearance was during the third week, and as far as we can make out about the same day. All had pain at the time of occurrence. In the first case the pain has entirely disappeared. In the third there is pain on exertion, and in the second the same as the third, except it is more severe. None have pain without exertion.

In the first case only the ankle and leg are swollen; the swelling in the second and third, however, involves the whole leg. In the last two the saphenous vein is tense and swollen; not so, however, in the first case; it is fair to assume that the first case has passed through the same conditions.

Nearly all cases, under proper treatment, recover; the pathology, therefore, is difficult to get at. They are most likely caused by a phlebitis with a thrombus.

As a rule, one leg alone is affected, and, too, what is curious, it is generally the left. Here we have three cases presented at the same time in all of whom the affection is in the left leg. No accurate explanation of this selection has yet been given.

The swelling generally subsides slowly. Exertion generally redevelops the swelling, rather increases the swelling and redevelops pain. Some cases are extremely chronic, and a long time elapses before recovery takes place. One case now in mind, occurring in a business man, still shows swelling upon exertion after three years. In another, in a young man, the swelling develops now, after a number of years, when dancing.

The three cases presented are very instructive. There is no heart lesion. In the first case the overacting heart is due to the state of the blood. In none of these cases is there anything to lead us to suppose that a portion of the plug has been washed off and carried into the heart.

Albumin occurring in the urine of the third case is remarkable, yet explainable. The veins of the kidneys are engorged, caused by plugging of the saphenous vein, hence the albuminuria. This is unusual.

One of the earliest manifestations of this disease recurring in typhoid fever, and one important to bear in mind, is that pressure upon the calf of the leg develops pain; one side is more tender than the other.

The most important factor in the treatment is to keep the patients off their feet. Their business may prevent this, but when they are at home they should sit with the leg up, and thus aid the flow of blood by gravity. Another excellent method is by massage and shampooing. Very active massage is to be condemned; the plug may be broken off. With gentle massage, rub the leg thoroughly, night and morning, with the following liniment:

R.—Chloral ʒj.
Liniment sapon. ʒvij.

Another very useful plan of treatment is to use hot and cold douches followed by good friction, rubbing in an upward direction. Care should be used not to use any violence. Use bandage when walking or standing.

For the albuminuria in the third case:

Mistur. Basham. ʒj t. d.

For overacting heart in the second case:

R.—Tinct. strophant. gtt. iij.
Tinct. cinchon. comp. ʒj.
Sig. t. d.

There was marked improvement in all of these cases when seen two weeks after treatment.

MEDICAL PROGRESS.

Antacids in Dyspepsia and Gravel.—SIR WILLIAM ROBERTS, in opening the Therapeutic Section of the British Medical Association, said that there were few simpler problems than those relating to the palliative treatment of acid dyspepsia and the chemical prophylaxis of uric acid gravel, but there were some practical points in carrying out the treatment which were neither simple nor well known. Antacid agents might be classified into those which were designed to take effect in the

stomach, or gastric antacids; and those which were designed to take effect in the kidneys, or renal antacids. The gastric antacids in common use consisted of the alkaline and earthy carbonates and lime-water. Renal antacids combined, in addition to these, the acetates and citrates of potash and soda, which were changed in the *prima vie* into carbonates of these bases.

Gastric antacids were employed in two distinct classes of cases—namely, in acid dyspepsia, and in a variety of conditions characterized by great irritation of the stomach, often with vomiting, which we sought to allay by the administration of milk mixed with lime-water. For acid dyspepsia the lozenge was the best mode of administration of an antacid. The Pharmacopœia had two lozenges of this kind, the troch. sod. bicarb. and the troch. bismuthi. The latter was to be preferred. It owed its antacid properties to the chalk and magnesia which it contained, the bismuth being probably inert. Many lozenges sold in the shops contained pungent spices which were injurious. The Tichy lozenges were valuable, but rather costly. It was well to vary the antacid from time to time.

The question might now be put, Is there any harm in the practice of habitually using antacids for the relief of acid dyspepsia? He had naturally at one time regarded the practice with misgivings, but a more extended experience had led him to believe that it was harmless. He used the bismuth lozenge largely, but with the following precautions. They were not to be used at or near meal-times; they were not to be used regularly or systematically, but only when gastric pain was present and produced real discomfort; lastly, the use of the lozenge was to be discontinued if it failed to cut short the pain. Lime-water and milk was a favorite remedy, and often very successful. It sometimes failed, owing to the very low saturating power of lime-water. It was often desirable to substitute a solution of from five to ten grains of bicarbonate of soda per ounce for the lime-water.

The use of renal antacids rested on an equally rational basis. To prevent uric acid gravel forming we had only to keep the urine alkaline; but, simple as this was, there were some practical difficulties in the way, owing to the persistence of the tendency to the uric acid formation. It was very important to remember that this tendency did not last throughout the entire twenty-four hours, the necessary conditions being only present during the hours of sleep. It followed that if we safeguard the night, the day might generally be left to take care of itself. In the milder cases a full dose of the alkalizing agent at bedtime was sufficient. The citrate of potash was the best preparation. The dose for an adult should not be less than from forty to sixty grains, dissolved in three or four ounces of water. In severer cases a second dose should be taken about the middle period of the hours of sleep. In still more severe cases additional doses might be required, but usually only temporarily. The essential point in the prophylactic treatment of uric acid was to guard the urine from precipitating within the precincts of the kidney. An antacid which was too feeble to render the urine actually alkaline might postpone the time of precipitation.—*Lancet*, Aug. 17, 1889.

Fissures of the Tongue.—Great difficulty is generally experienced in the treatment of fissures of the tongue,

and the unpleasant malady seems, at times, to defy all therapeutic measures. DR. SCHWIMMER, in the *Journal de Méd. de Paris* of August 4th, recommends the following, the use of which he has observed to be followed by the most marked success:

R.—Papayotine or papaine . . . 1 part.
Glycerine }
Water } . . . aa 10 parts.—M.

After drying the parts, apply the mixture several times daily.

Alcohol in Puerperal Fever.—At the meeting of the German Society of Obstetrics and Gynecology which was held on the 28th of June, DR. A. MARTIN read a paper on the efficacy of alcohol in puerperal fever. Eighteen cases were cited, five of which died. Three cases were of pyæmia and fifteen of septicæmia. Besides the alcohol treatment, a strict local antiseptic treatment was also resorted to. The alcohol was given in large quantities in the shape of various wines and spirits together with a most nutritious diet. One of the cases which recovered was given, inside of six weeks, 17 bottles of cognac, 13 bottles of burgundy, 37 half-bottles of champagne, 4½ bottles of other heavy wines, and 6 bottles of porter. When slight diarrhœa was observed the wine was changed.—*Deutsche med. Wochenschrift*, July 25, 1889.

Tannin Injections in Typhoid.—Since the excellent results obtained by Cantani in the treatment of typhoid with enemata of tannin solution, the method has also been tested by several physicians in Germany; foremost among these are DR. MOSLER (*Münchener med. Wochenschrift*, July 23d) and DR. BACKHAUS (*Deutsche med. Wochenschrift*, No. 29). The results obtained by these investigators are equally as good as those of Cantani. Mosler's method of using the remedy is as follows: He gives two injections daily of thirty grains of tannin in two quarts of water at body temperature. Later he increases the amount of tannin to nearly three drachms, the same amount of water being used. The enemata should be given slowly so that any sudden distention of the bowel be avoided. In all cases great relief was experienced after the use of the treatment, the diarrhœa disappearing entirely. The temperature is not affected by the use of the drug.

Salve for Anal Fissures.—The following salve, given in the *Revue gén. de Clin. et de Thérap.*, is designed to augment the healing in conjunction with the use of other curative methods. The fissures should be thoroughly stimulated with nitrate of silver and the salve applied several times daily. Its antiseptic and analgesic properties will be found most valuable.

R.—Boracic acid . . . 3 parts.
Hydrochlorate of cocaine . . 1 part.
Lanolin . . . 30 parts.—M.

Radical Operation for Varicocele.—A simplification of the operation for the radical cure of varicocele has, of late, been extensively discussed among French specialists. Lucas Championnière and Reclus, in the *Ann. des Malad. des Organ. génito-urin.*, No. 4, 1889, and PAUL SEGOND, in the *Centralblatt für Chirurgie* of August 10th, state

that from extensive experience they maintain that the result obtained by mere resection of the scrotum is equally as good and certain as that obtained by operating directly upon the enlarged veins themselves. The former operation is devoid of danger, excepting that which is incurred by any surgical procedure, and also most simple. The latter, or old radical operation, is occasionally attended by complications far from pleasant.

TILLAUX, in writing on this subject in the *Tribune Méd.*, No. 7, 1889, forwards the opinion that the spermatic artery is of but slight importance to the nourishment of the testicles, and has frequently sacrificed it when resecting the anterior plexus of veins, in the operation of varicocele of the spermatic veins. The place of the spermatic artery is readily taken by the deferential artery, which should remain undisturbed when the vas deferens is isolated.

HORTELOUP, although advocating resection of the skin of the scrotum, in doing this also removed the posterior bundle of veins; other operators have, however, proved that mere resection of the skin is equally as efficacious.

In the operation the testicles are pushed up as high as possible, and the scrotum below caught with a clamp, such as is used in securing the pedicle in ovarian operations or circumcision, then a row of silk sutures passed through the scrotum above the clamp, and temporarily held in place with artery forceps; then the part of the scrotum below these ligatures is resected away and the sutures knotted.

Sycosis Vulgaris.—DR. O. ROSENTHAL, in the *Fortschritte der Med.*, August 1st, claims that the etiology of sycosis is still very uncertain. Efficient therapeutics he has nevertheless found. He substitutes for the former painful methods of treatment, the use of the following salve, which, it is claimed, acts almost like a specific:

R.—Tannic acid . . . 3jss.
Lactate of sulphur . . . 3ij.
White oxide of zinc } . . aa 3jvss.
Amyl }
Vaseline . . . 3jss.—M.

The following modification will be found equally valuable:

R.—Tannic acid . . . 15 grs.
Lactate of sulphur . . . 30 "
Vaseline . . . 3v.—M.

Infantile Hysteria.—DRS. HAGENBACH-BURCKARDT and DUBOISIN agree with the view of Liebermeister, viz., that hysteria is a functional pathological condition of the gray substance of the brain, and must, therefore, be regarded as a psychical disease, and not a neurosis. They also claim that psychical symptoms are never absent; indeed, in some cases, they are the only existing ones. The type of hysteria occurring in children is usually most simple, and, therefore, such cases are especially adapted for the study of the disease. Burckardt and Duboisin have carefully studied the history of twenty-four cases of infantile hysteria, in which predisposition played an important part. They found that in fifty-eight per cent. of the cases a hereditary neuropathic tendency could be traced, whilst fifty per cent. of the cases inherited tuberculosis. Only three cases, in which the disease was but slight, were free from both the above-named predis-

positions. All the patients, with two exceptions, were anæmic. Two had previously suffered from poliomyelitis anterior acuta. In eight cases only was the initiative cause traced to fear, shock, etc. But few instances of ultimate cure were observed. The majority remained anæmic, and continued to be troubled with either headache, palpitation, nervousness, bodily and mental weakness, weak-mindedness, or hysterical psychosis. The prognosis may, therefore, be regarded as unfavorable. This, however, is largely dependent upon early diagnosis and treatment. —*Centralbl. für klin. Med.*, August 3, 1889.

Treatment of Hemorrhoids.—Some time since Unna strongly recommended the use of chrysarobin in hemorrhoids. A report of twenty-two cases treated with this remedy now comes from a Russian physician, DR. KOS-SOBUDSKI. True, he did not use the drug in such strong solutions as recommended by Unna (five to ten per cent.), yet the result of the treatment was most gratifying. After washing the parts with a two per cent. carbolic acid, or a one per cent. creolin solution, and drying them with absorbent cotton, he applied, three or four times daily, a salve of the following formula:

R.—Chrysarobin grs. xij.
Iodoform grs. v.
Extract of belladonna . . grs. jx.
Vaseline 5jv.—M.

In cases of internal hemorrhoids he prescribed suppositories as follows:

R.—Chrysarobin grs. i ¼.
Iodoform grs. ½.
Extract of belladonna . . gr. ⅙.
Cacao butter grs. xxx.
Glycerine q. s. for suppository.

If bleeding was severe, tannin was added to the above. With such therapeusis the pain and bleeding disappeared in all cases within three or four days, and the hemorrhoids had completely shrunk away in three or four months. —*Centralbl. für Chirurg.*, August 17, 1889.

The Treatment of Placenta Prævia.—DR. BRAXTON HICKS recommends (*Lancet*, Aug. 17, 1889) the following method: 1. After the diagnosis of placenta prævia is made, proceed as early as possible to terminate pregnancy. 2. When once we have commenced to act, we are to remain by our patient. 3. If the os is freely expanded and the placenta marginal, rupture the membranes, and wait to see if the head is soon pushed by the pains into the os. 4. If there be any slowness or hesitation in this respect, employ forceps or version. 5. If the os is small and the placenta more or less over it, carefully detach the placenta from round the os, and if no further bleeding occurs we may wait an hour or two; but should the os not expand, and if dilating bags are at hand, the os may be dilated. If it appears that the forceps can be admitted easily, they may be used; but if not, version by the combined internal and external method should be employed, and the os plugged by the leg or breech of the foetus; after this is done, the case may be left to nature, with gentle assistance, as in footling and breech cases. 6. If the os is small, and if we have neither forceps nor dilating bags, then combined version should be resorted to, leaving the rest to

nature, gently assisted. 7. If during any of the above manœuvres sharp bleeding should come on, it is best to turn by the combined method in order to plug by breech. 8. When the foetus is dead, or labor occurs before the end of the seventh month, version by the combined method, no force following, is the best plan. To these Dr. Braxton Hicks added, if we employ a routine method in most cases, it will be found that version by the combined method, no force following, gives a result as good as, if not better than, any. As to after-treatment, act on modern principles. Should oozing occur after expulsion of the placenta, swab the lower uterus by styptics, and irrigate the uterus daily with some antiseptic solution, and particularly, if irrigation cannot be done, insert iodoform pessaries in the vagina. This is especially useful if the outlet of the uterus is blocked by adherent clots.

Formulae for Infantile Constipation.—We quote the following from the *Lyon Méd.* of August 4th: For constipation in newborn infants, DRS. WIDERHOFFER and MONTI prefer mannite to any other drug. Its action, whilst mild and non-irritating, is also efficient. The formula usually employed is:

R.—Crystals of mannite 5 parts.
Water 50 " —M.

Dose, one teaspoonful, given every two hours.

Another favorite formula is that of DR. WIETHE, of Vienna, it reads as follows:

R.—Powdered rhubarb root } aa grs. xlvijj to lxxx.
Carbonate of magnesia }
Oleo-saccharure of fennel or anise, grs. xlvijj.—M.

The dose is said to be "a pinch" of the powder three times daily.

Hemorrhage from the Umbilical Cord.—DR. AUWARD has recently described an instructive case of this accident, which occurred six hours after birth in a private case. The cord was carefully tied one inch and a half from the umbilicus; it was thick and contained much Whartonian jelly. Four hours later, Dr. Auvard visited the mother, who was thirty-five years old, and had borne two other children. Looking at the infant he noticed that it was rather pale, but sleeping comfortably. He was sent for an hour and a half later, as the nurse had found the child's binder soaked with blood, and its extremities were cold. The cord was immediately tied again, and the child kept warm. On Dr. Auvard's arrival he found that drops of blood kept issuing from the stump of the cord, notwithstanding the new ligature. He tied the three umbilical vessels separately; the hemorrhage then ceased, and the infant, a well-nourished female, recovered perfectly. —*British Medical Journal*, August 10, 1889.

Injections of Salt and Water after severe Hemorrhage.—The following case is reported in the *Centralblatt für Chirurgie* of August 3d, by DR. PREGALDINO:

The patient, a woman, aged thirty-eight, had lost an enormous quantity of blood after an abortion. When called in, Pregaldino found her unconscious and pulseless, heart tones almost inaudible, respirations merely superficial. He immediately lowered the head and raised the body, wrapped an elastic bandage around the

lower extremities, and tamponaded the vagina. Finding that the patient continued to sink, he injected seven fluidrachms of a five per mil. solution of salt and boiled water, under strict antiseptic precautions, under the skin of the abdomen. He injected three and a half fluidounces at the same point and three others, inside of twenty minutes. During the injections massage was applied to the abdomen. Consciousness soon returned, and the patient raised herself. After this an additional seventeen fluidounces of the solution were injected. The result was speedy recovery.

Oxygenized Water in the Treatment of Blennorrhagia.—We quote the following formula from the *Journal de Méd. de Paris* of July 28th:

R.—Oxygenized water (10 per cent. solution) ℥j.
Distilled water ℥j.
Bichloride of mercury . . . gr. ⅞.—M.

Three injections should be made daily; the treatment need only be continued for two or three days.

Lime as a Disinfectant.—A short time ago the results of a number of experiments regarding the germicidal properties of lime, were published by Kitasato, Liborius, and Pfuhl. These investigators tested principally the antibacillary properties exerted by lime in feces containing cholera and typhoid germs. These results were indeed most happy and proved the powerful germicidal properties of lime even in proportions of 4 to 1000.

Quite recently (*Arch. de Méd. et de Pharm. militaire*, August, 1889) the results obtained in Germany have been confirmed by Drs. RICHARD and CHANTEMESSE, of Paris, who also quote the experiences of other investigators which coincide with their own. For disinfecting purposes they used a 20 per cent. solution of lime, or "lait de chaux" as it is termed by them. Comparative tables given, show that in the feces of typhoid and dysentery the germicidal efficacy of lime is far greater than that of sublimate solution (1 to 1000), hydrochloric acid (5 to 1000), or chloride of lime (5 per cent.).

Creolin in Dysentery.—Our readers will remember our having cited in THE MEDICAL NEWS of July 20th, the happy results obtained by a Russian physician with creolin injections in dysentery. The *Lancet* of August 3d now reports that another Russian physician, Dr. KOLOKOLOFF, has also employed one per cent. creolin injections in this disease in a number of cases with complete success. In the majority of cases two or three injections effected a cure. No unpleasant symptoms seem to follow their use.

Homerania in Tuberculosis.—Homerania is a plant belonging to the polygonaceæ, and has been successfully employed by Dr. LASKOFT in the treatment of tuberculosis. The plant is indigenous to Russia, and an irritant oil is extracted from it. Laskoft prescribes an infusion or decoction of the plant in many respiratory affections, particularly bronchitis and tuberculosis. He states, in the *Journal de Méd. de Paris* of August 4th, that he has treated 112 cases of tuberculosis with this remedy, and in 90 cases complete cure was effected. In the early stages of the disease the improvement of the system in

general was most marked, together with a steady regression of the pulmonary lesions, which could be determined by auscultation and percussion. In the advanced stages of the disease cure was not effected by the drug, although the general condition of the patient was greatly ameliorated by its use. The night-sweats ceased, and the cough and expectoration greatly diminished.

Laskoft gives the following formula for the drug:

R.—Infusion or decoction of homerania . . . ℥j.
Distilled water Oij.—M.

Sig.—To be taken in twenty-four hours.

Conjugal Diabetes.—At the last meeting of the "Hospital Medical Society" of Paris, reported in the *Revue gén. de Clin. et de Thérap.* of August 1st, Dr. DEBOVE reported six instances where diabetes had occurred simultaneously in man and wife. As this coincidence has also been frequently observed by other practitioners, he considered the subject worthy of careful investigation. Debove does not accept the theory that the simultaneous existence of the disease may be due to the defective alimentation of both patients, but, rather, that contagion is seemingly possible, if not probable.

Several members of the Society reported simultaneous or consecutive cases of the disease in their own practices.

Antiseptic Treatment of Variola.—A novel and apparently efficacious method of treating variola has been advanced by Dr. LEWENTANER in the *Therap. Monatsheft*. It consists of application to the face of a three per cent. carbolic or salicylic paste, made with starch and oil of sweet almonds. The application is kept on the face by means of a mask. The body and limbs are frequently anointed with the following salve:

R.—Glycerine (neutral) 70 parts.
Starch 30 "
Salicylic acid 3 "—M.

Internally, Lewentaner gives every quarter or half hour a few drops of the following:

R.—Oil of sweet almonds ℥ss.
Syrup of orange flowers ℥jss.
Laurel water ℥ij.
Hydrochlorate of quinine . . . grs. v.
Dissolve in hydrochloric acid q. s. to make emulsion.

In six cases where the treatment was used all recovered without any complications and without scars. The duration of the disease is greatly shortened by the treatment, the average, after the appearance of the eruption, being twelve to thirteen days. There was almost an entire absence of fever during the course of the malady. The contagiousness of the disease seems to be completely suspended by means of the treatment. The patients in question were surrounded by other children, not vaccinated, yet none took the disease.

Nervous Cough.—At the last Meeting of Physicians in Cologne, Dr. PAUL KOCH delivered an address on the subject of nervous cough; at the close of which he stated the following conclusions which his researches had caused him to arrive at:

1. The existence of a purely nervous cough cannot be denied, although the term is often misapplied.

2. The diagnosis can only be determined after the perfect soundness of the organs of the chest and abdomen has been confirmed.

3. The pathognomic symptom is a cough of unvarying sameness in the individual affected.

4. The multiplicity of curative measures for this affection is a proof of their inefficiency. The disease usually cures itself. A sea voyage or change of air and scene acts most beneficially.—*Wiener klin. Wochenschr.*, July 25, 1889.

Injection for Leucorrhœa.—We quote the following from the *Union Médical*, August 13th:

R.—Chlorate of potash . . .	12 parts.
Laudanum . . .	10 "
Tar water . . .	300 "—M.

Two or three tablespoonfuls of the mixture, added to a quart of water, should be used as an injection every morning and evening. The duration of each injection should be about five or six minutes. Under this treatment the fetid discharge is said to occur frequently.

Cure for Oxyuris Vermicularis.—According to the *Canada Medical Record* for August, oxyuris vermicularis will promptly disappear after injections, per rectum, of cod-liver oil, pure or made into an emulsion with the yolk of an egg. It is non-irritating, and is said never to have failed in effecting a cure.

Strychnine in Alcoholism.—JAROCHEWSKY, in the *Journal de Méd. de Paris* of July 21st, reports two cases of chronic alcoholism and one of dipsomania which he successfully treated with strychnine. In all cases the region of the stomach and liver was painful to the touch. One case was clearly hereditary. The treatment consisted either in hypodermic injections of $\frac{1}{16}$ gr. of strychnine, repeated in ten days; or daily doses, by the mouth, of $\frac{1}{16}$ gr. of strychnine for two to five months. In every instance the recovery was complete.

Excretion of Phosphates in Rickets.—DR. V. TEDESCHI, of Trieste, publishes in the *Rivista Veneta di Scien. Med.* the following results of his examination of the urine, feces, and sweat of rachitic patients compared with those of healthy people. In the urine of healthy children the phosphates varied in quantity even though the diet remained unchanged, the maximum and minimum amount of phosphates generally following one another directly. The urine of rickety children showed the same variation. The variation was probably the cause of different results in different examinations. As a rule, however, the phosphates in the urine of rachitic children were greater than in healthy children. The phosphates in the feces were increased when the child was constipated, and diminished in diarrhœa. The feces in the diarrhœa of rickety children contained less phosphates than those in the diarrhœa of non-rickety children, except the latter happened to be suffering from intestinal catarrh. Whenever the phosphates were increased in the feces of rachitic children the same increase took place in the urine, and the same may be said of the decrease. The best remedy for the treatment of diarrhœa in rachitis seemed to be phosphate of lime. The profuse secretion of the sweat glands in rachitis

contained more saline matter than is usually to be found in the secretion of healthy children.—*The Lancet*, August 17, 1889.

Hydrate of Amylen in Epilepsy.—WILDERMUTH has used one-half to one drachm doses of hydrate of amylene with considerable success in epilepsy. Also in cases where bromides had previously been used in excess. It proved to be valuable in treating several cases of nocturnal enuresis. One and one-half to two drachms of the drug may be given daily. Wildermuth usually prescribes it in a watery solution. During the epileptic attacks hypodermic injections of the drug have been given with marked success. No unpleasant symptoms were observed to follow large doses. Its long-continued use produced continued sleepiness. The anti-epileptic properties of the drug only lasted for six or eight weeks in most cases.—*Deutsche med. Wochenschr.*, August 15, 1889.

The Relative Growth of Organs of the Body.—An interesting investigation has recently been conducted by DR. OPPENHEIMER, and is reported in the *Centralbl. für klin. Med.*, August 17. Oppenheimer bases the results obtained upon 943 autopsies, at which careful measurements were taken. Briefly summarized they are as follows:

1. The weight of the body reaches its highest point sooner in the female than in the male. The bodily weight of the adult man is usually about twenty times that of the infant, whilst that of the adult female is eighteen times that of the infant.
2. The growth of the lungs greatly exceeds that of the body in general.
3. The heart grows nearly in proportion to the body.
4. Similarly the spleen and kidneys.
5. The liver and brain grow relatively slower than the general organism.

Treatment of Diphtheria.—CHANTEMESSE and WIDAL, in the *Prager med. Woch.* of July 31st, speak of the results obtained by them with various antiseptics upon the bacillus of diphtheria. After numerous experiments they settled upon the following formula, which seemed most efficacious and practical:

R.—Carbolic acid . . .	f 3 $\frac{3}{4}$.
Glycerine . . .	f 3 $\frac{6}{8}$.
Camphor . . .	3 5.—M.

Dissolve with heat; cool and decant. The decanted fluid will be a camphorated phenol-glycerol, which should be applied to the diphtheritic patches once or twice daily, the parts having been previously washed with carbolic solution.

Camphorated Naphthol in Tuberculous Ulcerations.—Camphorated naphthol, in a mixture of one part naphthol and two parts of camphor, forms an oily liquid, and may be easily applied to ulcerations of the skin and mucous membranes. DR. FERNET, in *L'Abeille Médicale* of August 19th, claims to have found it a most valuable application for tuberculous ulcerations, especially those of the mouth and throat. Fernet by no means asserts that in camphorated naphthol to have found a cure for tuberculous ulcerations, but holds that by its use the local symptoms will be greatly ameliorated.

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SATURDAY, SEPTEMBER 7, 1889.

RESPONSIBILITY IN THE MANAGEMENT OF CONTAGIOUS OR INFECTIOUS DISEASES.

APART from the legal aspects of the question of compulsory notification of contagious or infectious diseases to the local health authority, the medical practitioner is bound by moral obligation to do all within his power to restrict or prevent the spread of diseases of this class which cause so much suffering and loss of life. The physician, from the close personal relations which he bears to the sick, and the dependence placed on his judgment and advice, possesses exceptional advantages for instituting and directing measures for the protection of the health of the family and of the community, and therefore holds a position of the greatest responsibility. The notification of the local health authority does not relieve him from this responsibility, but, by inviting coöperation, strengthens his hands in the performance of duty.

In the early stages of disease, when doubts arise as to the diagnosis, an invaluable opportunity for instituting protective measures is often lost by awaiting, inactive, the future development of the symptoms. Suspicions of the infectious nature of the disease demand the prompt use of measures of precaution. Epidemics have occurred through the dilatory action of the physician, who, while waiting for distinctive symptoms before employing the means of prophylaxis, has allowed the infection to escape beyond his control. In proof of this state-

ment, a recent epidemic of smallpox arising though such neglect might be mentioned, which involved nearly four hundred cases, eighty of which proved fatal.

The prompt isolation of those suffering from dangerous communicable disease or with symptoms giving rise to suspicions of such disease, the careful attention to ventilation, to personal cleanliness, and to cleanliness of the apartment and everything pertaining thereto, and the employment of rational methods of disinfection during the continuance of the malady and after its termination, and when this termination is by death the proper care of the corpse and the protection of the public by advising against the assembly of persons at the funeral, are all measures of extreme importance which the medical attendant should deem it his duty to enforce. The disregard of his directions is sufficient reason for invoking the coöperation of the health authorities whom the law has clothed with absolute authority in all such cases.

No one is better acquainted than the physician with the value of the scientific use of disinfectants. There is no longer the uncertainty that formerly existed with regard to the methods of employment of these valuable agents. Elaborate and precise investigations conducted in the laboratory with the object of determining the relative potency of various substances in destroying the germs of disease, have yielded definite and valuable results, so that we now have at our command a number of agents of positive efficiency in destroying all known morbid poisons which emanate from the bodies of the sick.

The number of cases of disease of the class we are considering over which the health authorities assume special control is comparatively small; the greater number is left to the care of the medical attendant. The Board of Health may prescribe rules and regulations to be observed in the management of all such cases, and impose penalties for their infraction. It is not possible, however, by official espionage to obtain knowledge of the manner in which these regulations are observed; and hence this information must emanate from the medical attendant, who for the time being is constituted a quasi health officer, upon whom there is imposed a dual obligation, that to the patient and family and that to the community generally. The neglect of this responsible duty from personal considerations is deserving of the severest condemnation. The suppression of the true knowledge of the disease, the allowing of intercourse with the sick, or the attendance at school

of children from an infected house are instances of breach of duty, the consequences of which can readily be foreseen.

The occurrence of disease which from its nature is liable to spread and inflict great injury upon the community, calls for special and immediate action upon the part of the medical attendant. To a certain extent he should act as the guardian of the public health. It is his duty to inform the health authorities promptly of the existence of such disease, and to acquaint himself with the law and regulations pertaining to its management, and to coöperate willingly in carrying out all measures prescribed for restricting the spread of contagion. His peculiar relations to the family enable him to institute and supervise all needful precautions without the annoyance incident to official interference. If these advantages are fully appreciated and turned to practical account, there need be no occasion for intrusion of the authorities. The physician, however, cannot exercise his option in the matter of reporting these cases; the law requires it and must be obeyed. It is reserved for the health officer to judge whether the measures employed meet the necessities of the case. Besides insuring the proper management of individual cases, there are other objects of notification, which are the prompt adoption of general measures of prophylaxis, the investigation of the origin, causes, and course of outbreaks of virulent disease, the collection of statistical data, all of which are greatly facilitated by prompt and accurate report to the proper authorities.

COLORECTOSTOMY.

THAT colorectostomy, or the formation of an anastomosis between the rectum and colon, will gain for itself such popularity over inguinal colotomy as the latter operation has over lumbar colotomy, we do not anticipate. Were inguinal colotomy impossible, we would stop to consider whether in all cases the more serious (if practicable) procedure would not be justifiable, that our patients might be saved from the subsequent filth and discomfort of the lumbar operation, now happily almost a thing of the past. But not so; for, while anterior colotomy has been reduced to an extreme minimum of primary risk and secondary discomfort, and is applicable to all cases, on the other hand, colorectostomy must of necessity be limited to a small class, and be much more difficult and dangerous.

The operation has not, as yet, been performed

upon the living body, but, from studies upon the cadaver, is described by its projector, DR. EMERICH ULLMANN, in the *Wiener med. Presse*, No. 24, 1889. Its possible field is limited to highly situated and closely circumscribed disease of the rectum; the stricture or tumor mass must be at least several inches above the anus. These necessary conditions being present, Ullmann proposes to operate as follows:

The rectum having been emptied and cleansed, an incision is begun midway between the left tuber ischii and anus, and carried upward to the same side of the sacro-coccygeal junction, and downward through the levator ani muscle, pelvic fascia, and peritoneum to the full length of incision. Should there not be sufficient room at this or any subsequent stage, the coccyx can be partly disarticulated and turned aside, or at once excised. The rectum and its surroundings are now carefully examined. If excision of the organ is not found to be possible, and the surroundings are not so infiltrated as to prohibit drawing down the colon, operation is continued; otherwise it should be abandoned in favor of excision or colotomy. Conditions being favorable, the thumb and index-finger seek the sigmoid flexure, through the meso-colon of which a strip of gauze is inserted. Traction upon the gauze, with the assistance of the fingers, brings the coil of bowel into the wound. An incision parallel to the bowel axis is then made upon the left side of the rectum midway between the sphincter and stricture. A similar opening is also made upon the right posterior portion of the prolapsed bowel, and the two openings are united in the usual way. The wound of soft parts should be left open, packed, and kept absolutely aseptic.

For one variety of conditions Ullmann's operation may prove of value. That is, in cases of high non-malignant stricture, where the patient otherwise might be compelled to go through a long life with an artificial anus. Here, if our German brethren prove the proposed resource to be surgical, even a considerable amount of risk would be justifiable to gain the result which Ullmann believes quite possible.

THE Director of the Laboratory of the Cronica Medico-Quirurgica of Havana entertained Dr. George M. Sternberg, U. S. Commissioner to investigate yellow fever, at a complimentary banquet on August 24th, prior to his departure from Havana, where he has been for several months studying the bacteriology

of yellow fever. Dr. Sternberg will immediately return to this country and complete his research by an extended comparative investigation, by the same methods, of cadavers from other diseases.

THE Examining Board of the United States Navy, consisting of Medical Director Alfred C. Gorgas, Inspector John H. Clark, and Surgeon Thomas H. Streets, last week held a special session at the Naval Hospital at Brooklyn, for the purpose of examining candidates for eight vacancies in the medical corps.

THE American Public Health Association will hold its seventeenth annual meeting at Brooklyn, N. Y., October 22, 23, 24, and 25, 1889, under the presidency of Dr. Hosmer A. Johnson, of Chicago.

The Executive Committee have selected the following topics for consideration:

I. The causes and prevention of infant mortality.

II. Railway Sanitation. (a) Heating and ventilation of railway passenger coaches. (b) Water-supply, water-closets, etc. (c) Carrying passengers infected with communicable diseases.

III. Steamship Sanitation.

IV. Methods of Scientific Cooking.

V. Yellow Fever. (a) The unprotected avenues through which yellow fever is liable to be brought into the United States. (b) The sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever. (c) The course to be taken by local health authorities upon the outbreak of yellow fever.

VI. The Prevention and Restriction of Tuberculosis in Man.

VII. Methods of Prevention of Diphtheria, with Results of such Methods.

VIII. How Far should Health Authorities be Permitted to Apply Known Preventive Measures for the Control of Diphtheria.

IX. Compulsory Vaccination.

X. Sanitation of Asylums, Prisons, Jails, and other Eleemosynary Institutions.

Papers upon miscellaneous sanitary subjects not included in the above list will be received by the Executive Committee subject to the requirements of the By-Laws.

WE regret to learn of the death of Dr. Thomas King Chambers, Honorary Physician to the Prince of Wales, Senior Consulting Physician to St. Mary's Hospital, and author of "Lectures, Chiefly Clin-

ical," "Indigestions or Diseases of the Digestive Organs Functionally Treated," and "A Manual of Diet and Regimen in Health and Disease," works which were reprinted and widely read in this country. Dr. Chambers was a graduate of the University of Oxford, and was a physician of great culture and marked originality. He died on the 15th ultimo, at the age of seventy-one.

REVIEWS.

LECTURES ON PATHOLOGICAL ANATOMY. By SAMUEL WILKS, M.D., F.R.S., Consulting Physician to, and formerly Lecturer on Medicine and Pathology at, Guy's Hospital; and the late WALTER MOXON, M.D., F.R.C.P., Physician to, and for sometime Lecturer on Pathology at, Guy's Hospital. 8vo., pp. xx., 672. Third edition, thoroughly revised. By SAMUEL WILKS, M.D., LL.D., F.R.S. London and New York: Longmans, Green & Co., 1889.

THE publication of a new edition of a work which has so long enjoyed the high reputation of the Lectures of Wilks and Moxon is not to be wondered at. Owing to the death of Dr. Moxon, shortly before the exhaustion of the former edition, the work of revision has devolved upon his venerable colleague. In this way the general character and scope of the book have been preserved, notwithstanding the introduction of much new matter. To make room for this, without materially increasing the size of the volume, much that was thought superfluous has been omitted, and some of the chapters have been rewritten.

As in the previous editions the subject is treated from the standpoint of the autopsy table rather than from that of the laboratory. Gross appearance accordingly receives more detailed description than histological structure. Throughout the book, also, there is a noticeable deficiency in the discussions of the etiology of the various conditions. This is especially apparent in the notices of the infectious diseases. For example, on p. 430 we read: "It has been said of late that a specific bacillus may be found in typhoid, and the report from Cornil's laboratory is that it has been discovered also in the liver, lungs, and spleen. The difficulty in proving this has been to get a pure cultivation, and to separate the specific form from other bacilli." The etiology of cholera is dismissed with the following (p. 648): "The microbe found by Koch, and which he calls the 'comma-bacillus,' is said to be characteristic. It has been found also by Klein and Gibbes in the dejecta and in the intestine, but they decline to say that it is the cause of the disease."

Inaccuracies are also occasionally noticeable as, on p. 267, where the statement is made that inflammation of a nerve "has been called *peripheral* or *interstitial neuritis*, according as the sheath or the internal structure is affected;" and on p. 167, where we are told that "tubercle is not known to attack bloodvessels." The author himself contradicts the latter statement on p. 181, where he says: "Tubercle is almost unknown in the veins," thus tacitly admitting its occasional occurrence.

It is not with any desire to be hypercritical that these defects are alluded to, but in the hope that they may receive correction in a later edition. None can be more appreciative than we of the usefulness of the book as the embodiment of an experience acquired during years of careful study at the autopsy table.

SOCIETY PROCEEDINGS.

GYNECOLOGICAL SOCIETY OF CHICAGO.

Stated Meeting, March 15, 1889.

THE PRESIDENT, CHARLES T. PARKES, M.D.,
IN THE CHAIR.

DR. W. W. JAGGARD read some notes on the

ETIOLOGY OF PUERPERAL ECLAMPSIA.

The term denotes epileptiform convulsions, characterized by recurrence of paroxysm after longer or shorter pauses, followed by unconsciousness, that occur during labor, pregnancy, and the puerperium. As thus defined, the expression puerperal eclampsia restricts us to no particular theory as to etiology.

Happily, the symptom, justly regarded as a disease, is of infrequent occurrence. In general terms, eclampsia is observed once in five hundred deliveries. Out of 316 cases collected by Carl Schroeder, convulsions occurred 190 times during labor, 62 times during pregnancy, and 64 times during the puerperium.

Among the modern theories of etiology, the first, as well in point of time as in present importance, is the doctrine that eclampsia is the expression of acute urinemia, conditioned either upon functional or organic disease of the kidneys, or upon obstruction to the flow of urine through the ureters. The evolution of this conception has been gradual, and it may be profitable to trace the stages of its development.

After the recognition of the association of albuminuria and disease of the kidneys with eclampsia by Lever (1842), Jevilliers and Regnault (1848), Frerichs (1851) advanced the hypothesis of uræmia, and suggested that the convulsions were due to the retention in the blood of urea and its decomposition into ammonium carbonate. This notion has become obsolete, since, aside from an isolated observation by Spiegelberg (1870), the presence of ammonium carbonate in the blood in sufficient quantity to cause convulsions has never been demonstrated, notwithstanding numerous examinations of the fluid by responsible chemists. The weak points in the hypothesis of ammonemia have been pointed out particularly by Rouxmelaire, Voit, and Bartels.

The notion of the mere retention of urea, without decomposition-changes, as the cause of the disease, has been shown to be without basis in fact. Winckel has demonstrated that no such accumulation of urea occurs in the most important organs of dead eclamptics—that is, in the liver and muscles—but that, on the contrary, these organs contain less than the normal quantity. E. Voit and M. Stumpf have observed that the elimination of nitrogen through the urine in convalescent eclamptics is about equal to the minimum excreted in the condition of absolute starvation.

Carl Braun, at the same time that Frerichs published

his classical treatise (1851), declared puerperal eclampsia to be identical with the convulsions of Bright's disease. Braun's theory (1857) in his own words is: "The interruption of the secretion of urine in both kidneys, the acute retention of all excrementitious matters (normally excreted by the kidneys) in the blood and tissues, exercises a highly pernicious influence and explains the occurrence of eclampsia." In proof of this theorem, Braun has brought forward an amount of evidence that almost amounts to demonstration. Although certain observers affect a disbelief in this etiological doctrine, yet they all fully recognize it in prevention and treatment. Still, Braun's theory, just quoted, cannot be accepted as a universal proposition. It explains the very large majority of cases of eclampsia, but it does not explain all cases.

As originally pointed out by Morgagni (1767), and at a later period by Halberstam (1871) and Löhlein, flexure, infraction, stretching, catarrh, or pressure may prevent the flow of urine through the ureters, and condition, directly or indirectly, urinemia. Although no doubt exists as to the occasional operation of this factor, its etiological moment does not approach the significance of renal insufficiency. Out of thirty-two cases of fatal eclampsia, Löhlein demonstrated dilatation of one or both ureters in eight, or twenty-five per cent. Löhlein concludes that in five of these cases an already insufficient urinary excretion was still further limited, or even entirely interrupted, by retrostasis of urine in consequence of compression of the ureters, so that urinemia and its symptom, eclampsia, followed.

Much light has been thrown within a recent period upon the pathological significance of urinemia. The toxicity of normal urine has been demonstrated, although there is some difference of opinion as to the active agent. Bouchard claims to have isolated five organic poisons, and his observations are supported by Battlehuer, who recognizes the ultimate cause of eclampsia to be a decomposition-product like a ptomaine. On the other hand, Voit, Feltz, and Ritter, Astachewsky (1881), Lepine (1885), and Stadthagen (1889) maintain the dominant importance of potash salts, while they admit the effect of the retained nitrogenous matters—urea, uric acid, kreatin, and the like—in the limitation of tissue-metabolism. Closely similar views have been expressed by Nothnagel, Strumpell, v. Jaksch, Fleischer, and Peter.

A plausible explanation of the immediate causation of convulsions in cases of urinemia has been given by Carl Schroeder. The experiments first performed by Kussmaul and Tenner prove that epileptiform convulsions are invariably produced only by ligature of the arteries that supply the brain. It is, accordingly, in a high degree probable that puerperal convulsions are caused by cerebral anæmia. How is this cerebral anæmia effected? The most highly probable view is that of vasomotor spasm of the bloodvessels at the base of the brain. In favor of this view there are the following facts: (1) The inability to explain the cerebral anæmia in any other way; (2) the sudden onset of the convulsions and the rapid *restitutio in integrum*; (3) the negative results of autopsies; (4) the effect of remedies that cause dilatation of the vessels of the brain.

As to the causes of the vasomotor spasm, we have the following facts: (1) The plus state of excitability of the nervous system observed in pregnant, parturient, and

puerperal women as in children, so that a vasomotor spasm will occur, the operation of a cause that at other times would produce no such effect; (2) the vasomotor centre is more irritable, especially during labor; (3) with the predisposition upon the part of the nervous system in general, and of the vasomotor centre in particular, the toxic state of the blood is amply sufficient to give rise to an explosion. What other irritants are at work it is impossible to say. Possibly, as in epilepsy, irritation of the peripheral nerve-endings—that is, irritation of the uterine nerves, or pressure upon the ischiatic nerves—may play a certain rôle.

Of uncommon interest are the recent investigations of Stumpf.¹ This observer found that when the expired air of an eclamptic smelled of acetone, that acetone could always be demonstrated in the patient's urine, distilled or not distilled. Knowing the relation of acetone and allied bodies and acetonuria to the coma of diabetics, he at once sought for sugar in the urine of the same individuals, and succeeded in showing its presence in all the cases in which urine in sufficient quantity for testing could be collected. Stumpf came to the conclusion that, under abnormal decomposition-processes, a nitrogen-free, toxic substance—possibly acetone, or an allied body with the same reaction—is developed that during excretion irritates the kidneys to the extent of nephritis, exercises a pernicious influence upon the coloring matter of the blood, and alters the activity of the liver cells so that glycosuria follows; that this action on the liver cells may go on to destruction of the hepatic parenchyma, the production of acute yellow atrophy with the formation of tyrosin and leucin, and, through irritation of the brain, coma and convulsions. Stumpf leaves to the future the determination whether this body is the result of an agent of infection derived from without, or whether it is derived from the fetus in utero. Winckel is of the opinion that the predisposition to eclampsia in multiple pregnancy, the fatal effect of the eclampsia upon the fetus, the peculiar rigor mortis of the infants, and, finally, the item that with the death of the child in pregnancy the danger to the mother grows less—that all these facts indicate a close relation between fetus and mother in the genesis of eclampsia.

Gustav Braun² has reported several cases of elapsia in which hemorrhagic hepatitis was the most significant lesion.

Suggestive as the observations of Stumpf and Gustav Braun are, facts are as yet too few to admit of generalization. The importance, however, of more exact analysis of the blood and urine in all cases is obvious.

Passing mention must be made of the Traube-Munk-Rosenstein hypothesis, if for no other reason, because Dr. Freer, of Chicago, some years ago performed certain experiments that led him to broach a similar supposition. Traube's view was that the hydremic state of the blood incident to pregnancy, and increased by the loss of albumin in Bright's disease, constituted the important predisposing factor; that the blood pressure is elevated on account of the heart-hypertrophia of pregnancy; that,

under the reflex stimulus of uterine contractions, blood pressure becomes so great as to cause œdema of the middle brain and cerebral cortex, resulting in pressure-anæmia that is followed by coma and convulsions. Rosenstein modified this hypothesis by the omission of the effect of the loss of albumin by the blood. He merely eliminated the nephritis. These notions, as well as the conception of eclampsia as a form of acute epilepsy, at present possess a purely historical interest.

The notion that eclampsia is an example of infection is by no means new. The fact that the disease is always sporadic, never epidemic, renders this hypothesis improbable. But it is quite possible that the Bright's disease may be due in certain cases to infection. Out of five cases recorded by Doléris and Pavay, two were ascribed to an infection nephritis. In these cases it is claimed that the infection of the blood pursued a course parallel with the convulsive seizures. The experiments of E. Blanc,¹ with microbes isolated from the urine of an eclamptic tend to support this view. Inoculations of rabbits with these microbes were followed by convulsions in some cases, and by infection nephritis in others. Upon this phase of the subject, however, Dr. Bayard Holmes has something to say.

About thirty cases of eclampsia have come under the speaker's observation in hospital and private practice. In all of these cases the etiology was perfectly clear. They were all examples of urinemic convulsions, conditioned upon Bright's disease.

(To be continued.)

CORRESPONDENCE.

THE INTERNATIONAL CONGRESS OF THERAPEUTICS.

(From our Special Correspondent)

THE International Congress on Materia Medica and Therapeutics held its first meeting on August 1st, under the presidency of Dr. Moutard Martin; the Congress immediately divided itself into a Section of Therapeutics and a Section of Materia Medica.

In the Section of Therapeutics, the first communication was by Prof. Semmola, of Naples, who spoke on the subject of chromocytometry applied to the indications for mercurial treatment and alterative medication. One of the great difficulties, he said, is to know when to stop the treatment, or, again, when to begin it. This exact measure will be given by making a hemoscopic or hemometric examination of the blood before and during the mercurial treatment; the number of red corpuscles and the proportion of hæmoglobin are always in a constant relation to the biological action of mercury, and this action varies according to its taking place in a syphilitic or in a healthy organism; hence, before a mercurial course is begun, it is important to make a chromocytometric examination of the blood. After the disappearance of the specific symptoms, this same examination is to be repeated every three or four days at least. If the proportion of hæmoglobin increases, the mercury is still indicated; if the proportion diminishes, the patient is cured, and the mercury then acts as a toxic drug. We must always fear that the mercury may act as a destroyer of the blood corpuscles. The

¹ Verhandlungen des ersten deutschen Gynäkologen Congresses in München: Archiv. f. Gyn., Bd. xxvii., Heft 3, S. 471; Münchener med. Wochenschr., 1887, Nos. 35 und 36.

² Sitzungs-Berichte der Geburtshilfflich-Gynäkologischen Gesellschaft in Wien. I. Jahrgang.

¹ La Semaine Médicale, 1889.

apparatuses which he recommended are the chromocytometer of Bizzozero, the hemochrometer of Malassez, and von Heischl's hematometer. He finally formulated his views as follows: "Chromocytometry must be regarded as giving the exact measure of the indication and use of the drugs which modify the activity of the tissue-changes, because the final and real therapeutic result of this action is unquestionably an increase in number of blood corpuscles, which means an increase of hemoglobin."

M. Cros, of Paris, next made a communication on the mode of action of vesicating substances. He thinks that the vesicating action is a physical one at first. There is produced a dissolution of the vesicating matter in the epidermis, which then behaves itself toward the derm as a real vesicating substance, the physiological action on the derm being secondary.

M. Lavaux, of Paris, read a paper on the "Use of Cocaine in the Treatment of Urinary Diseases." He said that the cocaine solution must not only be placed in contact with the penile portion of the mucous membrane of the urethra but also with the neck of the bladder; in cystitis cocaine is excellent. In few words, the rules of the treatment are: 1st. To anesthetize at the same time the urethra and the bladder; 2d. To use only a 4 per cent. or even 2 per cent. solution of cocaine, but in sufficient quantity to saturate the vesical mucous membrane. This means the injection of four to six fluid-drachms of such a solution. 3d. This solution is to be injected into the bladder without the use of a sound. The use of cocaine is also to be recommended in spasms of the membranous portion of the urethra, in cystalgia or vesical neuralgia. One fact to be remembered is, that cocaine allows the desire to urinate to remain even if the anesthesia of the vesico-urethral mucous membrane be complete. This means that it is not the sensibility of the prostatic mucous membrane which plays the principal rôle in the desire to urinate, as sustained by MM. Küss and Duval, but that it is vesical distention, as advanced by Prof. Guyon.

MM. Crocq and Lefebvre, of Belgium, would not admit this last physiological deduction, and made the remark that certain patients have a desire to urinate even if there be no fluid in the bladder.

Dr. Guelpa, of Paris, next spoke on the "Treatment of Diphtheria." He said that two of the most important points in the treatment of this disease were to follow a local treatment, and not discontinue this treatment during the night. Antiseptic irrigations and vaporizations are to be resorted to; we must be careful not to apply our treatment too roughly, and guard against wounding the surrounding mucous membrane; for recent investigations have shown that the diphtheritic bacillus can only penetrate the organism through an abraded mucous membrane. Pulverization and irrigation must be made wherever diphtheritic membranes are present; this is the reason why he believes in an early tracheotomy. In cases of nasal diphtheria, the nasal fossæ must be thoroughly cleansed out, and if the disease extends to the maxillary sinus, this cavity must be opened by trephining.

In the afternoon session, Dr. Dujardin-Beaumetz introduced the following subject: "Antithermal Analgesics." He said that this question had been brought before the Congress so as to determine the special action of this class of agents, which are, as is well known, not only

analgesic, but also antithermics, and even antiseptics. Some act as antiferments, and combat high temperature by preventing this fermentation; others act on the blood corpuscle, and decrease the temperature by acting on the respiratory power of the blood; while a third class modify the calorific centres of the cord by acting directly on the cerebro-spinal centres; this last class of antithermics possess almost exclusively analgesic power. An important point also is to determine the relation existing between the atomic constitution and the physiological properties of these different medicines. From a series of experiments made by Dr. Dujardin-Beaumetz and Dr. Bardet, the following laws have been obtained, which give an appreciation of the antiseptic, antithermic, and analgesic properties of the new drugs obtained from the aromatic series:

1. The antiseptic effects produced belong especially to the hydrated series (phenols, naphthols, etc.).
2. The antithermic actions are dominant in the amidogenous series (acetanilide, kairine, thalline).
3. Finally, the analgesic properties are found in this last group of amidogenous series, where an atom of a fat radical, and particularly methyl, is substituted by an atom of hydrogen (acetphenetidine, methylacetanilide, dimethylxyloquinizine).

Prof. Lépine, of Lyons, said that even in the healthy animal the antithermic action of these drugs is a complex one; they produce an arrest in the activity of the protoplasts, and most of them act on the red blood-corpuscles by transforming the hemoglobin into methemoglobin, or again attack the tissue itself of the blood corpuscle; but their influence is especially marked on the nervous system. The remarks which he made in 1886, on the nervous action of antipyrine, made him say at that time that all true antipyretics were nerve drugs. This moderating nervous action of antipyrine and the other antithermics is not only an analgesic property, but he has found that under the influence of these agents the quantity of glucose used is diminished in the capillaries; that there is a diminution of the glucose at the expense of the glycogen, in the liver and muscles, and that in certain cases one can even find a diminution in the formation of the muscular and hepatic glycogen. Their action on the quantity of albuminoid used, which depends on the age and dose, is a variable one, and is not to be neglected when considering the production of heat. It is to a diminution in the consumption of hydrocarbons in the economy that we must attribute, for the greater part, the reduction in the temperature observed in small animals. M. Lépine concluded by saying that these agents are poisonous to the protoplasm, but much less active than quinine; their principal action being on the nervous system, they modify certain sensitive impressions and, at the same time, the production of heat, by preventing the too great use of hydrocarbon materials.

M. Masius, of Liege, said he preferred the use of phenacetine in the treatment of tuberculosis and typhoid fever, as well as in the different forms of rheumatism. As an antineuralgic, he uses this drug by giving it in doses of from fifteen to forty-five grains, its action is less dangerous than antipyrine. In animals, phenacetine, given in toxic dose, brings on death by asphyxia, while in smaller doses it will produce motor and sensory paralysis.

Dr. Francis H. Williams, of Boston, did not believe in the use of analgesics during fever; he said that they produce only a temporary relief; but, on the other hand, their

use prolongs the appearance of convalescence. Again, in certain cases, their use may be accompanied by danger—these facts are sustained by Dr. Stokvis, of Amsterdam.

Dr. Desplats, of Lille, had used antithermics for more than ten years, and finds constant satisfactory results: the temperature falls, secretions are more profuse, and the patient feels much better; but their action being of a temporary character, they must be continuously administered.

M. Snyers, of Liege, had made comparative studies of the different analgesics in regard to the symptoms produced by kairine, antipyrine, thalline, acetanilide, and phenacetine, and he has found that antipyrine was by far the safest to be used.

Dr. Bardet, of Paris, next spoke on the use of the new analgesic, methylacetanilide, known as exalgine; he finds it a powerful analgesic, in all neuralgias due to cold or congestion. Out of 75 cases observed, he finds that in 10 cases of rheumatism the pain completely or almost completely disappeared, in 5 cases doubtful result, in 3 no result at all; in 3 cases of cardialgia, good results; in 14 cases of neuralgia, rapid results; in 13 cases, certain results but less rapid; in 5 cases, negative results—they were cases of chronic sciatica.

Dr. Dujardin-Beaumetz, as well as M. Bucquoy, did not think exalgine as reliable as antipyrine; it has a greater tendency to bring on cyanosis and vertigo, which appear whenever the dose of the drug reaches $7\frac{1}{2}$ grains.

Next came the discussion on the second question which had been placed before the Congress, "On Cardiac Tonics." M. Bucquoy opened the subject, by saying that in cardiac therapeutics our aim is not so much to combat the lesions of the organ as to sustain its action. For a long time digitalis has been the principal agent, and it is one that must not be disregarded to-day, although many other drugs have been recommended instead, such as convallaria maialis, adonis vernalis, strophanthus, and squill. Most of them act by increasing the systoles of the heart, and especially the ventricular systole, making the pulse regular by increasing the arterial tension and producing a more or less abundant diuresis; it would be well, however, to know what is their action on the vaso-motor system, for they are not all vaso-constrictors as digitalis; it would be also useful to ascertain how long they can be administered without danger of accumulation. It is also necessary to know whether the alkaloid, the active principle of the plant, can be prescribed like the plant itself and if the effects produced are the same.

M. Masius, of Belgium, preferred to administer digitalis in powder for a heart tonic, while Dr. Dujardin-Beaumetz gave preference to the infusion of digitalis.

M. Bucquoy gave an account of 206 observations which he had made with strophanthus. Under the influence of strophanthus the pulse becomes slower and more regular; it takes the character of the aortic pulse, even in pure mitral patients. When in a mitral patient the pulse becomes aortic under the influence of the drug, when the pulse, which was primarily feeble, becomes able to arise high the sphygmographic needle, and give ascending lines equal to the normal rather than to the aortic pulse, we can say that we have to deal with a "strophanthic pulse." In mitral patients the pulse becomes aortic, while in aortic cases the pulse of Corrigan is exaggerated. M. Bucquoy thinks strophanthus is a very

safe drug and capable of being given for an indefinite time; in regard to diuresis, it has a constant action. Its action will be useless if the cardiac muscle is degenerated.

M. Féréol prefers the infusion of digitalis, yet recommends the use of digitaline as advised by Prof. Potain, in large doses; one dose being sufficient for eight or ten days.

Prof. Semmola, of Naples, also prefers digitaline.

M. Crocq, of Brussels, read a communication on the "Treatment of Pneumonia by Acetate of Lead." He first remarked that pneumonia is not a disease that runs a very regular course; some cases present a deferescence of the fever on the seventh day, while others will go on much longer—several weeks. He said that at present pneumonia often passes into chronic pneumonia on account of our expectant plan of treatment, instead of favoring the absorption of the pneumonic exudate. He thinks acetate of lead is most efficacious to prevent a pneumonia from becoming chronic. In Germany this drug was formerly recommended by Nothnagel and Rossbach. Leudet has used it in France. By means of this treatment the speaker has observed that the number of pulsations are greatly reduced, the elevation of temperature comes down rapidly, and the sputa disappear. Sometimes he associates laudanum with the acetate of lead to prevent diarrhoea. He recommends a minimum dose of six grains, while up to fifteen grains can be given to an adult in twenty-four hours; the treatment can be continued without danger from twelve to fifteen days. In cases of pneumonia in a healthy, vigorous subject he prefers bloodletting; but in all pneumonias of the weak, of alcoholics, of diabetics, it gives marvellous results.

Prof. Semmola, of Naples, next read a paper on the "Use of Continuous Electric Currents in Chronic Lead-poisoning." He claimed that this method stimulates the nutritive process, and favors the elimination of the lead by the different excretory organs; a very few days after beginning the treatment it becomes possible to find lead in the urine, and this elimination continues as long as the treatment is kept up; the lead gum-line gradually fades away; the atrophied muscles become more active, and he had even seen old paralysis of the extensors disappear under this treatment; formerly he only placed the negative pole in simple communication with the bath, and the positive pole on the patient; now he places one pole on the neck, the other on the vertebral column. By these means he has obtained twelve complete cures of lead-poisoned patients who had been placed in an incurable hospital. This treatment seems to be of no avail when the patient has presented signs of encephalopathy.

M. Constantin Paul said he had never been able to find lead in the urine of his saturnine patients who were treated by electricity, unless iodide of potassium was given at the same time.

Prof. Semmola said he never gave iodide of potassium in any of his cases.

M. Pétrescu, of Bucharest, read a paper on the hyper-emetic action of digitalis, and its antiphlogistic action on pneumonia; his conclusions are that pneumonia can be aborted, if treated early enough, by large doses of digitalis; this treatment of pneumonia is the most rational one, being based on its pathogenic indication; the efficacy of this treatment is also confirmed by statistics; the lowest mortality is found in cases of pneumonia treated

by large doses of digitalis. One to two drachms of the leaves of digitalis given in an infusion is the real therapeutic dose for a pneumonia of adults. The tolerance and non-toxic effect of this therapeutic dose are given in his work, made after a series of 757 observations.

Prof. Semmola is somewhat sceptical about giving such formidable doses of digitalis without dangerous effects being produced.

M. Bucquoy examined the tracings of the patients of M. Pétescu, before and after treatment, and he found that all but one presented tracings of intoxication.

M. Constantin Paul questioned the term tonic, given to all the cardiac drugs of which the different members had spoken. The model of tonics, he said, is sulphate of quinine. A tonic is a condensing drug which furnishes to the organism a force which it retains. If quinine is used in a very high fever, the temperature will come down to normal, but not below; now again, if in a very low temperature—much below normal, quinine be given, the temperature will go up to normal. Do the cardiac remedies act in this manner? No. If digitalis is given, it will restore the contractile energy of the heart; but if continued, its useful action will become dangerous.

He does not approve of sparteine nor caffeine. As to strophanthus or digitalis, he did not consider them as direct cardiac tonics, but as secondary ones, if the dose is not pushed too far. The increase of the cardiac energy appears only when the resistance of the blood-vessels diminishes by the fact of the diuresis. If diuresis does not take place, a few punctures with the thermo-cautery will evacuate the serosity; the vascular resistance diminishes, and soon after the cardiac contractions are reinforced; but if we give to an œdematous patient strophanthin, or digitalin when he does not urinate and in whom we have made no punctures, we are stuffing fuel in him which is sure to kill him. He thinks convallaria maialis a good remedy to remove the œdema in arhythmic patients in whom the pulse remains weak. We must not forget alcohol, hot wine, ether, infusion of stimulating aromatic plants, and, finally, in aortic disease especially we have a powerful heart tonic—namely, a hypodermic of morphine.

Dr. Férol sustained the views of M. Constantin Paul in regard to convallaria, and said that it can be taken for a long time without any danger to the patient.

Professor Semmola next read a short paper on "Sulphur as a Medical and Surgical Antiseptic." He had used sulphur for intestinal antiseptics, especially in typhoid fever; he also places pulverized sulphur in the bed of his fever patients.

M. Hallopeau read a communication on the "Nature of Alopecia and its Antiseptic Treatment." The author thinks that alopecia is always a parasitic disease, the parasite is situated very deeply on a level with the hair papilla. The disease is transmissible by contact. The treatment must be prophylactic and curative. The scalp must be very often washed with antiseptic solutions; the scalp must be modified by means of a blister and then Bardet's liquid is to be used; a well-treated alopecia ought to disappear in three or four months.

M. Hallopeau read another short paper in which he recommended certain antiseptics for the local treatment of syphilis. Iodoform can be used, or the different mercurial preparations, such as the acid nitrate of mercury, sublimated solutions; he recalled Diday's phrase,

namely, that local treatment is always useful, oftentimes necessary, sometimes indispensable.

M. Jorissenne, of Liege, in a short communication, expressed his opinion that fissures of the anus are due to microorganisms; hence, he thought that the most rational treatment is the antiseptic method, which is at the same time analgesic. Corrosive sublimate solution has been found very effective; used as an ointment it is painless, easy of application, and efficacious; inunction must be made thoroughly, and the finger must be introduced at least for an inch and a quarter into the rectum.

PARIS, August 10, 1899.

A WINTER VACATION TO THE WINDWARD ISLANDS.

V.

TOBAGO was our next point, where we arrived long before daylight the next morning. But few of us went ashore, on account of the high surf, which prevented the ship taking cargo. It was a place of interest to us all, and Robinson Crusoe was the topic of the day. We spoke of him as an entity once among living men. We saw photographs of his cave; we speculated where was the beach upon which he saw footprints in the sand, and upon which rock the ship foundered. It was from Trinidad that the cannibals came, and they were beyond doubt man-eating Caribs. We consulted maps and studied ocean currents and prevailing winds, and the only island corresponding to his description that would intercept a vessel in a storm on the homeward voyage from the Brazils was Tobago. All this was soberly discussed and settled. Robinson Crusoe was real to all of us, as he will be to generations to come. He is not the only creation born of genius and of art that has cast a spell over the minds and hearts of men. These creatures are not shadows, but real, substantial, ruling the boundless dominion of the mind by the same agency that has placed the sceptre in the hands of those who rule—the subtle essence of the spirit. Have not as strong men sprung from the brains as from the loins of men? Are they not all the more potent from never having known the fetters and limitations of the flesh?

I risked the dangers of the surf and got safely ashore without wetting my camera. The little town of Scarborough straggled over a series of hills fairly buried in a wilderness of cocoanut palms, bread-fruit, nutmeg and broad-leaved plantains. One of the largest ceiba or silk-cotton trees which I met with among the Islands I saw here. It was an immense trunk with buttresses extending outward from two to five or six feet to the ground. The top extends widely and gives a dense and ample shade. It is a tree sacred to Obeah, and under it the negroes hold their fetich devility. The heat was so extreme that I was glad to secure a boat and return to the ship. On my way I secured a very good negative of the surf with the long line of palms that decorate the beach. It was an unfortunate trip for the ship, as she secured no freight, but the passengers were pleased with the opportunity to see the island.

Another day passed at sea and we were at the end of the route, and swung at the wharf at Georgetown, Demerara. We put up at the Tower Hotel, kept by a colored woman who told me that she was educating her daughters in Germany. The coolie, as in Trinidad, does

all the work and the negro of all shades may be as lazy as he pleases. He gets very little consideration here. Demerara is a Crown colony, and consequently is a white man's government. Georgetown is intersected by canals which keep up a system of irrigation as well as drainage. We saw several fine plantations, all with large coolie quarters attached. On our way we passed through the famous avenue of royal palms extending on both sides of a road near the coolie quarter of the town for about a mile. The sight was a beautiful one, but the photograph was disappointing, although a fair negative. Tropic foliage to be effective in a photograph must be massed. There is a beautiful botanic garden surrounding Government House where we found some very effective groups of foliage. The town has little of interest. The shops were not nearly so well stocked as at Trinidad. In fact Demerara is all sugar; that is its sole motive to exist, no other trade is cared for or invited. I, for one, was very glad after a dull and hot Sunday to get on board again and double back on our return voyage.

Barbadoes was our first return port. Here began the hopeless struggle of the good ship "Barracouta" for a cargo. She had failed at Georgetown and Port of Spain, but she was going to be in luck at Barbadoes; but the only cargo that she took on was much-needed water. At St. Lucia, St. Vincent, Antigua, Montserrat, it was only a few tierces here and a few bags there. At the latter place, 120 tierces of lime-juice were secured. This island is famous for its limes, which are exported by a rich company who have a monopoly of all the fruit. No lime-juice can be sold except through the company. It all goes to England, and thence over the world. It is worth mentioning that the tierces were shipped to England by the steamer company at the same rate the American freight was taken to New York—on the plan of what our railroad shippers call the "long haul," I suppose.

Had it not been for our stops on the return voyage, my expedition would have been a failure, photographically speaking.

I began my work subject to the unnecessary fear of over-exposure. The thin, flat negatives, characterized by a general want of contrast, which had been exhibited at the Camera Club by those who had been to the tropics, were explained as the result of over-exposure. At the same time, experts in outdoor work, whom we would find among the professionals, tell us to "stop down" and use our most rapid shutter. Nothing could be better designed to deceive the amateur accustomed to our northern summers with their clear, white lights, blue sky and dry air than the full glare of a tropic sun in a cloudless sky. The conditions favorable to rapid work seem the same, only greatly intensified in degree in favor of the tropics. But actually the conditions are reversed. A brief analysis of what exists at the tropics will, I believe, prove this. Of course, what I say relates to the marine tropics. In elevated and dry interiors within that latitude we have an approach to the conditions that prevail during midsummer in the temperate zone.

In the first place, the tropical objects that we have before the camera are full of contrasts. There is a peculiar glare on all objects exposed to full sunlight, with a corresponding depth to the shadows. There appears to be less diffusion in the light, like the shadows to electric

light; but this is not so. It is simply contrast; the illuminated surfaces are very bright, the shadows very dark. In masses of tropic foliage this is largely due to their structure and density, but it is quite noticeable in architectural objects also. In wide scenic effects the same trait prevails.

In the mountains it is rare to find broad surfaces exposed. The sides are carved into ravines, pinnacle and cone merge into each other in aerial perspective. Dizzy and tortuous *arêtes* wind up the sides. The profiles of the mountains break abruptly, upheaving tier upon tier, like steps and winding stairways. Strange, weird, unearthly forms that tell of a world in ruins. All this is draped by a tropic profusion of foliage in variegated greens—a face of age in a mask of external youth. Everywhere you observe the marks of the fiery origin of these exquisite bits of earth, the fragments of what was once a mighty continent, caught like brands from the burning in the ages of its cataclysm. These surfaces are never illuminated alike; one side takes the full sun-glare, and the other, in deep shadow, appears black in contrast. Here the earth, with tropic mystery and grace, lends itself to artistic conditions met with rarely elsewhere. The heart of the enthusiastic amateur aches to get the marvellous scene upon his plate.

A difficulty that the photographer has to contend with, but which adds greatly to the infinite beauty of the mountains, and that would be clear to the artist with his pencil, is the dense volume of cloud that settles upon the summits. The trade-winds toy and sport with the clouds that by day and night rest in majestic masses upon the mountains. They are perpetually in motion; breaking into fragments and trailing purple streaks of shadows after them, winding in wreaths about the thin and twisted edges of *arêtes*, or piled in portentous columns of blinding whiteness when the sun impinged upon the mass, and with the blackness of a storm-cloud on the other side. The shadows of these dense cumuli often blot out all detail to the eye, even at noon-day. All long distance views were very thin, and required intensification to give even a poor print. Roughly stated, with the same stop and sensitiveness in the plate that would secure a good negative in the States, five times the exposure was required in the marine tropics with the most favorable conditions. I am speaking now of long-distance views. For near views and street scenes a good drop-shutter picture is nearly impossible.

All that I saw in the Islands had the same fault of under-exposure, although taken by men familiar with the conditions. Two causes contribute to this. The atmosphere is at a point of saturation with moisture. This actually screens the light, and just in proportion diminishes the actinic power. From this excess of moisture the second condition results, namely, the marked yellowness of the light, which diminishes greatly the actinic power. At Tobago, for instance, I made an exposure on the Government building. Its front was adorned with a portico. The columns were white. By reflection the yellowness of the light was overcome, and consequently gave good printing density, while the sky printed through, even under tissue-paper, a slaty-gray. Surf scenes, which were often very beautiful, suffered severely from under-exposure, as in order to get the effect you have no option but rapid work.

To Dr. Benjamin Sharp, of the Academy of Natural

Sciences at Philadelphia, I am indebted for instruction which put me right in the matter of exposure. I had the pleasure of meeting him at Tobago, so that I was enabled to correct the error on my return. I trust any of my photographic friends who go to the marine tropics will not commit my blunder, but will give ample time and full exposure.

When homeward bound we may say that our delightful expedition was ended. We had seen man under new conditions in the paradise of indolence—the Islands of the Afternoon, where no man toils.

ELY VAN DE WARKER.

THE INDIAN APPRECIATION OF TESTICULAR JUICE.

To the Editor of THE MEDICAL NEWS,

SIR: In a recent issue of THE NEWS, there appeared a note stating that the Indians of the Northwest have used a powder prepared from dried testes. To this material results are attributed which must be due merely to the imagination. No large knowledge is needed to show that such a powder must be devoid of all active property—for it is pretty nearly certain that the power possessed by testicular juice must be due to the presence in it of a *leucomaine*.

I have long known of a practice carried out by the Cheyenne Indians—the best favored, ablest, and the bravest of all the Indians of the Rocky Mountains and Plains. The older Indians encourage the eating of raw buffalo and antelope testes by the young warriors. They maintain that the juice confers on them increased power in all directions, especially as to the sexual function and bravery.

In 1859-60, when serving at the Post of Fort Merrión, New Mexico, I saw a young Cheyenne "buck" with two large testes, one in his mouth on which he was chewing vigorously, swallowing the juice as rapidly as he could, whilst out of the corners of his mouth the fat ran freely. The Indian did not look altogether happy as he went through his gastronomic feat, although he strove hard to preserve that stoical demeanor which every Indian is supposed to maintain under all circumstances. The older bucks stood around, giving an occasional grunt of satisfaction and approval, but the white spectators exhibited no little disgust and some were nauseated.

It now appears that the Indians were not wrong in their opinion of testicular juice. Again we learn—as saith the Preacher—that there is nothing new under the sun, and that which has happened once will happen again, and all is vanity.

R. B.

PHILADELPHIA, Sept. 2, 1889

NEWS ITEMS.

The Prophylaxis of Tuberculosis.—In our issue of August 24th we gave the report of the French Commission on Tuberculosis. The discussion of the report was continued at the meeting of the Académie de Médecine held August 13th. After a lengthy debate, Dr. Villemin closed the discussion by saying that the danger from the sputa of phthisis was unquestioned, and that the Commission's recommendations for strict hygienic measures and disinfection were endorsed. In the pursuance of these measures, the careful disinfection of railroad

coaches should not be omitted. Only, the question of the danger in using the flesh of tuberculous animals was still unsettled; he, therefore, proposed that a committee be appointed to investigate this most important subject.

The Academy unanimously acquiesced in this proposal, and a committee was appointed consisting of Drs. Villemin, Verneuil, Germain Sée, Cornil, and Dujardin-Beaumetz.

A New Swiss Pharmacopœia.—A new Swiss Pharmacopœia is shortly to be published. A request has been sent, by the collaborators, to Swiss medical societies and practitioners, requesting suggestions as to the introduction of new remedies and the retention of old ones.

Death from Suspension.—Another case of death has occurred from the suspension treatment of locomotor ataxy—this time in Italy. The case, which is reported in the *Riforma Medica* of July 19th, occurred in the clinic of Professor E. Galvagni.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 20 TO SEPTEMBER 2, 1889.

BAILY, JOSEPH C., *Lieutenant-Colonel and Surgeon* (Medical Director Headquarters Department of Texas).—Is granted leave of absence for one month.—S. O. 54, Headquarters Department of Texas, San Antonio, Texas, August 17, 1889.

Commanding Officer at Jackson Barracks, Louisiana, telegraphs the Adjutant-General of the Army that HARVEY E. BROWN, *Major and Surgeon*, died at Jackson Barracks to-day, at 1.40 o'clock P. M.—Jackson Barracks, New Orleans, La., August 20, 1889.

POPE, BENJAMIN F., *Major and Surgeon*.—Is granted leave of absence for one month, with permission to apply through Division Headquarters for an extension of two months.—Par. 7, S. O. 54, Department of Texas, August 17, 1889.

By direction of the Acting Secretary of War, WILLIAM S. TREMAINE, *Major and Surgeon*, now on sick leave of absence at Buffalo, New York, will report in person to the commanding general Department of the Missouri, for assignment to temporary duty at the post of Fort Leavenworth, Kansas.—Par. 4, S. O. 198, Headquarters of the Army, A. G. O., Washington, August 27, 1889.

PORTER, JOSEPH Y., *Captain and Assistant Surgeon*.—The resignation has been accepted by the President, to take effect August 29, 1889.—Par. 11, S. O. 200, Headquarters of the Army, A. G. O., August 29, 1889.

BANISTER, W. B., *First Lieutenant and Assistant Surgeon*.—Is granted leave of absence for fifteen days.—Par. 2, S. O. 82, Headquarters Department of Arizona, Los Angeles, Cal., August 23, 1889.

PROMOTIONS.

MATTHEWS, WASHINGTON, *Captain and Assistant Surgeon*.—To be Surgeon, with rank of Major, July 10, 1889, vice Town, promoted.

EWING, CHARLES B., *Assistant Surgeon*.—To be Assistant Surgeon, with the rank of Captain, July 5, 1889, after five years' service, in accordance with the Act of June 23, 1874.

MCCAW, WALTER D., *Assistant Surgeon*.—To be Assistant Surgeon, with rank of Captain, August 20, 1889, after five years' service, in accordance with the Act of June 23, 1874.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE-HOSPITAL SERVICE, FROM AUGUST 3 TO AUGUST 24, 1889.

LONG, W. H., *Surgeon*.—To proceed to Gallipolis, Ohio, as inspector, August 7, 1889.

WHITE, J. H., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, on account of wound, August 16, 1889.

CONDUCT, A. W., *Assistant Surgeon*.—Detached from Revenue Bark "Chase," and ordered to Louisville, Kentucky, for temporary duty, August 19, 1889.

GROENEVELT, J. F., *Assistant Surgeon*.—Ordered to South Atlantic Quarantine Station, for temporary duty, August 8, 1889.